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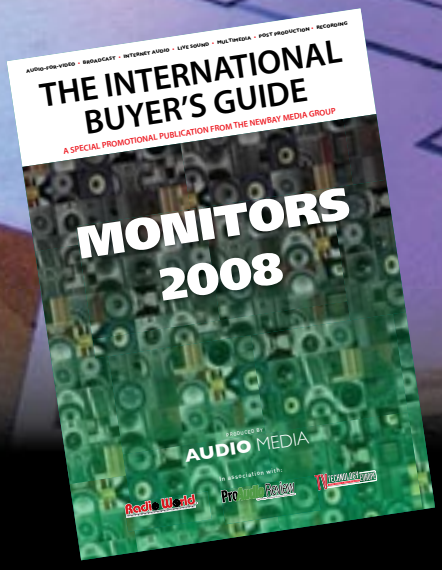
THE INTERNATIONAL BUYER'S GUIDE
A SPECIAL PROMOTIONAL PUBLICATION FROM THE NEWBAY MEDIA GROUP
MONITORS 2008
AUDIO MEDIA

Special Supplement

9 770960 747024 01
WORLDWIDE EDITION
ISSUE 206 • JANUARY 2008 • UK £3.80

NewBay Media

Also: Rupert Neve Designs 5088 • KRK VXT Series • AMSR: Mackie Onyx 24:4 • Magix Sequoia v10 • Violet Amethyst • Zoom H2 • Novation nio 2/4 • Marian I/O • Final Cut: Arn – The Knights Templar • Product Sampler: Trade Shows 2008 • Video Guide: Camcorders • What's Up UK: Red Bee, Channel 4, BBC Resources, The Digital Dividend • Recording News: Euphonix Artist Series; Rupert Neve Console Is Go • Broadcast News: Harbeth Audio M40.1; Broadcast Live • Post News: Savalas First For Premier • AMSR: Geo Focus • AMSR News: Travels With Meyer's MILO; Trantec S5 • And More!

SAME GREAT SOUND

NEW IMPROVED PERFORMANCE

GEMINI II

The Gemini II gives an incredibly large detailed and intimate sound reminiscent of the classic valve microphones from decades ago, but with all of the top end you'd normally associate with the best solid state mics on the market.

The all new Gemini II now has a 10dB pad and bass cut, a brand new brushed Aluminium PSU and lower s/n ratio. If you are after something that extra bit special you really must hear this microphone. Prepare to be amazed.

"I love the warmth, fullness, presence and fat sound of the Gemini II"

STEVIE WONDER

The NEW Gemini II now features:

- 10dB Pad
- Bass Cut Switch
- New solid aluminium power supply with lower signal to noise ratio
- New 'True-Lock' locking shockmount

PORTABLE MIC BOOTH £229

'I am incredibly impressed by the seemingly contradictory combination of warmth, crispness and definition that wascaptured in the tracks by the sE Gemini II and sE Reflection Filter. It was a beautiful, natural sound - we didn't even use any EQ!'

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Bob Dylan, The Rolling Stones, Willie Nelson, Bonnie Raitt

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Chris Lord-Alge
Producer/Engineer
Green Day, Sheryl Crow, All American Rejects

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- SSL E-Channel
- SSL G-Equalizer

"Very accurate. The V-Series is amazing."

Eddie Kramer
Producer/Engineer
Jimi Hendrix, Led Zeppelin, Rolling Stones

The **V-Series**

- V-Comp
- V-EQ3
- V-EQ4

"The API Collection does a great job emulating the hardware."

Andrew Scheps
Engineer/Mixing Engineer
Red Hot Chili Peppers, U2, Rolling Stones

The **API** Collection

- 550A 3-Band Equalizer
- 550B 4-Band Equalizer
- 560 10-Band Graphic Equalizer
- 2500 Stereo Compressor

WAVES

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SONIC DISTRIBUTION

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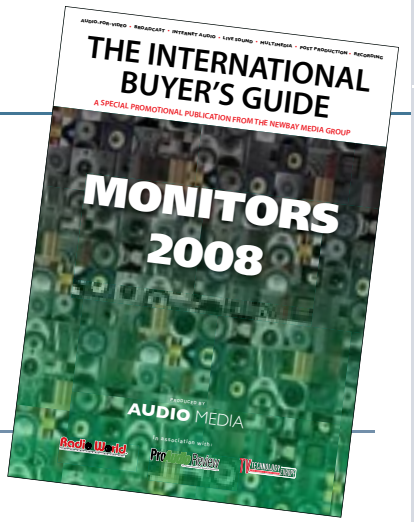
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SPECIAL SUPPLEMENT

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leader

Like the balloon operative who, year on year, is given more air and less rubber, I, and many others, year on year, predict 'something's got to give' – with unfailing inaccuracy.

While the media industries seem to rejoice in reducing budgets but cramming evermore in, I don't lay the blame entirely at the door of the balloon factory's Chief Financial Officer, or even the board of Directors. I do blame anyone who really believes that what the world needs is infinite variation on the theme of 'balloon' – at the expense of quality – but not entirely.

It's also true that stuff just happens. No one can be blamed for the advancing march of computer power, bandwidth, speed, and sophistication that inevitably raises expectations. When expectations rise, the media industries naturally try to fulfill them with more bells, more whistles, and more content. No one can be blamed for that (although the expectation that those things will also be free is also on the rise – piracy can be blamed for that).

The thing is, every new format, every new platform, every new development team, every path to market, and every new learning curve does not come with a new pool of consumers. It's the same people every time. Those people are drowning in a sea of media, and being pulled in a multitude of directions by a thousand undercurrents: social networks, massively multiplayer games, diluted TV networks, next (and future) generation consoles, and the iPod imperative – to name a few. But no single aspect of this is to blame.

So the problem with 'something's got to give' is the 'something' – especially when no single person, trend, or injustice is to blame. I understand that to maintain a media economy you need a constant supply of 'new'. It might be the pace of that supply that has to give, or even the form of that supply. Or, more likely, it'll come with the distillation of suppliers down to those that are big enough and adaptable enough to 'keep pace with progress'.

All I'm sure of is that before the balloon man shrugs and lets go, and the balloons all disappear upwards to the tune of their own raspberry requiems, something, somewhere, has to give.

And I'll continue to be sure of that until it turns out to be true.

Paul Mac, Editor.

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European (airmail) £60
International (airmail) £72
Payable in Sterling through UK bank

NewBay Media
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*Within Broadcast & Production

NEW PRODUCT

JZ Microphones The Black Hole

Latvian mic manufacturer JZ has introduced The Black Hole, a handcrafted multi-pattern (cardioid, omni, figure-of-eight) studio condenser mic featuring a Class A discrete amplifier circuit, two opposing-positioned true electrostatic capsules, custom-designed capsule with single tap diaphragm and adjustable backplate, patented variable sputtered diaphragm using a specially mixed alloy coating, and integrated capsule shockmount. "I am sure that The Black Hole will agreeably surprise every user," noted its designer (and CEO) Juris Zarins.

JZ Microphones.
+371 29992463.
www.jzmic.com

NEW PRODUCTS

M-Audio MicroTrack II, Pro Tools M-Powered 7.4

M-Audio has introduced the MicroTrack II handheld digital (24-bit/96kHz) recorder with USB 2.0 connection, T-shaped stereo electret mic, 1/4-inch stereo headphone jack, balanced 1/4-inch TRS line inputs, RCA line outs, and pro-quality pre-amps with 48V phantom power; also new, Pro Tools M-Powered 7.4 software, offering new features, including Elastic Time, allowing users to easily change the tempo and timing of loops, music, dialogue, and other sound files in real time without cutting up audio tracks.

M-Audio UK
+44 (0)1923 204010
www.maudio.co.uk
M-Audio USA
+1 626 633 9055
www.m-audio.com

LONDON

Sonic Distribution Gets Number 1!

December 3 saw Sonic Distribution hosting a launch event for Rupert Neve Designs' eagerly awaited 5088 Fully Discrete Analogue Mixer at its West London demonstration studio in its capacity as the Wimberly, Texas-based manufacturer's UK and Ireland distributor. Rupert Neve Designs Director of Sales Josh Thomas was on hand for demonstrations and Q&A sessions from the various VIP guests present – including, of course, *Audio Media*.

Here Thomas sang the supportive Sonic Distribution's praises thus: "It's very difficult to find a distributor who can both handle the box sales as well as this console, which is a very specialised product that's going to go, oftentimes, to a completely different kind of customer altogether; Sonic Distribution was one of our first distributors – they get it. As soon as we mentioned this console, the first thing they said was, 'Well, we'll need a proper demo facility for that; we'll get a proper studio room and a set-up for it.' As a manufacturer, I can't ask for anything more than that. And they signed up right away for Serial Number 1!"

Sonic Distribution
+44 (0)845 500 2 500
www.sonic-distribution.com
Rupert Neve Designs
+1 512 847 3013
www.rupertneve.com

NEW PRODUCT

Earthworks Audio PM40 PianoMic System

UK distributor Unity Audio has announced availability of Earthworks Audio's new PM40 PianoMic System, comprising two Random Incidence High Definition Microphones especially designed to work inside a piano with the piano lid open, half-closed, or fully closed, providing high gain before feedback with virtually no leakage of sounds of other instruments from outside the piano – perfect for churches, recording studios, touring sound, and performing arts centres.

Unity Audio
+44 (0)1440 785843
www.unityaudio.co.uk
Earthworks Audio
+1 603 654 2433
www.earthworksaudio.com

PRODUCT UPDATE

Mu Technologies Mu Voice

Mu Voice 1.1.1, the latest version of Mu Technologies' low-latency vocal harmoniser (with built-in tuner) plug-in, is now available as an Audio Unit (AU).

www.mu-technologies.com

PRODUCT UPDATE

Celemony Software Melodyne

Celemony Software has released version 3.2.2 of Melodyne studio and Melodyne cre8, and version 1.8.1 of Melodyne essential and Melodyne, all of which are Mac OS X 10.5 (Leopard) compatible.

www.arbiter.co.uk
www.celemony.com

DEVON

Time+Space Takes On BREVERB

Time+Space has been appointed UK and Irish distributor of Overloud's BREVERB hi-end algorithmic reverberation plug-in.

www.timespace.com

PRODUCT UPDATE

Soundscape Editor

Sydec Audio Engineering has announced that v5.5 of its Soundscape Editor software – the working environment for all Soundscape 32 and compatible DAWs – is now available for download.

www.sydec.be

NEW PRODUCT

VirSyn Software Synthesizer MATRIX - The Voice Coder

VirSyn Software Synthesizer has released – The Voice Coder, a PC- and Mac-compatible (VST 2.4, AU, and RTAS) vocoder plug-in featuring precisely modelled eight-pole filters.

www.virsyn.de

PRODUCT UPDATE

Digidesign Pro Tools 7.4

Digidesign has announced that its Pro Tools 7.4 software surpassed 10,000 downloaded purchases as of December 1, a mere 25 days after its release date.

www.digidesign.com

PRODUCT UPDATES

Yamaha Sees Vista

Yamaha Corporation of America has released new drivers and firmware updates for its n Series FireWire Digital Mixing Studios and GO46 FireWire Audio Interface.

www.yamaha.com

PRODUCT UPDATE

Minnetonka Audio Software AudioTools AWE v1.3

Minnetonka Audio Software has released AudioTools AWE v1.3, the latest version of its automated workflow engine for editing, format conversion, plug-in processing, encoding, and processing through external devices.

www.etcetera.co.uk

www.minnetonkaaudio.com

NEW PRODUCTS

Euphonix MC Control, MC Mix

"2008 - First Euphonix for your personal studio." So read the advance online tagline for Euphonix's upcoming (March 2008) all-new Artist Series 'universal' DAW controllers, comprising the MC Control and MC Mix.

The former features a high-resolution (800 x 480 pixel) touch-screen interface for displaying a project's top-level info – track names/numbers, metering, fader/pan values, et al, as well as accessing all plug-in and EQ parameters, plus more; four touch-sensitive motorised (100mm ALPS) faders; 12 Smart Keys; and eight programmable rotary encoders to create a powerful, flexible DAW controller.

The MC Mix drops that touch-screen interface in favour of eight motorised faders alongside eight programmable rotary encoders and eight high-resolution (128 x 64 pixel) OLEDs to create another compact control surface.

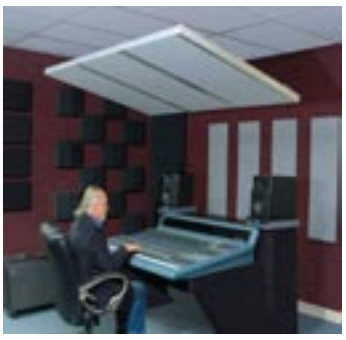
Both units can, of course, work together in perfect harmony, and come complete with Euphonix's EuCon proprietary high-speed Ethernet protocol to enable simultaneous control of multiple applications and DAWs over an Ethernet cable at 250 times the speed and eight times the resolution of MIDI, automatically detecting whatever application is in the foreground and instantly setting all screens, displays, faders, and controls accordingly.

Now for the good news: advance online pricing has the MC Control weighing in with an attractive MRRP of $1,999.99 with the smaller MC Mix pitched at $1,399.99!

Euphonix Europe
+44 (0)20 8561 2566
Euphonix (HQ)
+1 650 855 0400
www.euphonix.com

NEW PRODUCT

Primacoustic Stratus Ceiling Cloud



Primacoustic has announced availability of the Stratus Ceiling Cloud, an 'above-console' acoustic cloud designed to absorb unwanted early reflections, flutter echo, and control resonance in the critical mix position. The Stratus ships as a complete kit with a two-inch-thick, 24- by 48-inch high-density, six-pound-per-cubic foot acoustic fibreglass panel housed in micromesh with resin-treated edges, covered in an acoustically transparent fabric.

Primacoustic
+1 604 942 1001
www.primacoustic.com

COMPETITION

Focusrite Challenges Ears

Focusrite has created The Liquid Mix Challenge (www.focusrite.com/liquidmixchallenge), a dedicated competition website where entrants stand a chance of winning the company's new Liquid technology-driven LIQUID4PRE four-channel microphone pre-amp by listening to ten audio excerpts, each featuring three consecutive samples: dry, A, and B. In each case, simply decide whether the latter two are processed through original vintage or classic hardware, or Focusrite's own Liquid Mix's classic and vintage compressor and EQ emulations.

Focusrite Audio Engineering
+44 (0)1494 462246
www.focusrite.com
American Music And Sound
+1 866 474 7711
www.americanmusicandsound.com

NEW PRODUCT

Spectrasonics Stylus RMX Xpanded

Burbank, California-based virtual instrument software plug-in specialist Spectrasonics has released Stylus RMX Xpanded, pairing the Stylus RMX Groove Module virtual instrument with all five of its S.A.G.E. Xpander expansion libraries (Backbeat, Retro Funk, Metamorphosis, Burning Grooves, and Liquid Grooves) to offer an additional 5.5GB of acoustic drum and percussion grooves to Stylus RMX's 7.4GB remix-orientated core library.

Time+Space
+44 (0)1837 55200
www.timespace.com
Spectrasonics
+1 818 955 8481
www.spectrasonics.net

NEW PRODUCT

CEDAR Audio DNS1500

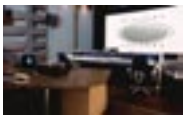
CEDAR Audio has announced availability of the DNS1500 Dialogue Noise Suppressor (£3,500, plus VAT), updating the style, design, and performance of its Academy Award-winning DNS1000 predecessor to include improved chassis and updated processors for increased compatibility in today's demanding audio environments.

CEDAR Audio
+44 (0)1223 881771
CEDAR Audio (USA)
+1 207 773 2422
www.cedaraudio.com

NORMANDY

Besson Buys Second System 5

Normandy-based filmmaker Luc Besson has purchased a second Euphonix System 5 console for installation in studio Audi 1 within his Digital Factory post-production complex. Besson also upgraded his primary 620-channel, 144-fader System 5 to EuCon Hybrid system status.



Euphonix Europe
+44 (0)20 8561 2566
Euphonix (HQ)
+1 650 855 0400
www.euphonix.com

GLASGOW, LONDON

Suffolk-based acoustic and technical design company White Mark has helped Film City Glasgow-sited Savalas – Scotland's biggest audio post-production facility – become Europe's first post-production facility to achieve Dolby Premier Studio Certification for its main digital film mixing theatre, one of only four such rooms in the world.

Savalas co-founder-cum-composer/film mixer Kahl Henderson commented, "We were determined to achieve Dolby Premier Certification for our main film room because we knew this would make us unique in Europe and give us a competitive edge; to do this, it was imperative that we had the right studio design company on board because room dimensions and reverberation times are a critical part of the Certification process."

White Mark
+44 (0)8700 757 767
www.whitemark.com

BRIGHTON

Audio Media Sponsors Develop's Audio Track

Audio Media has announced its support of the Develop Conference & Expo set to take place at the Hilton Brighton Metropole between 29-31 July, 2008, as exclusive Media Sponsor of its Audio Track (with planned sessions on cross-platform audio challenges, creating interactive music and sound, and collaborating with artists and programmers to deliver audio that counts). "A game should be an immersive experience, and audio is immensely important to that," commented Editor in Chief Paul Mac. "We have lots to learn from each other, and the Develop Audio Track is the perfect place to continue that education."

Tandem Events
+44 (0)20 7405 4500
www.develop-conference.com

PARIS

Digi Sells Saya ICON

Parisian post-production facility ICON has taken delivery of a 32-fader Digidesign ICON D-Control surface and Pro Tools|HD 3 Accel combo for use on a variety of TV projects.

www.digidesign.com

NEW PRODUCT

Blastwave FX Spoilers

Blastwave FX has released Spoilers, featuring 300 stereo movie trailers and compositions with matching 5.1 surround files, plus 200 high-impact stereo image elements, totalling over three hours of commercial-ready sound effects across four DVDs.

www.blastwavefx.com

VIRGINIA

Studio Center Acquires Tonic

Virginia Beach-based volume commercial production house Studio Center Total Production has acquired New York City's Tonic Studios, such that it now owns 24 studios across six US cities.

www.studiocenter.com

SONIFEX
Manufacturers of Audio Broadcast Equipment
SONIFEX Redbox
DO YOU GIVE A **** ABOUT BAD LANGUAGE ON YOUR STATION OUTPUT?
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Redbox RB-PD2
Stereo Profanity Delay
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4th - 6th March 2008
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Stand Z-B31
SONIFEX
www.sonifex.co.uk
+44 (0)1933 650 700
sales@sonifex.co.uk

What do they have in common?

Stephen Street with Audient & RADAR recording New Order on location with mobile setup.

Stephen Street one of the UK's most influential record producers. The man behind a string of hit albums for Kaiser Chiefs, The Smiths, Blur, Babyshambles, New Order, The Cranberries, The Zutons and many more.

RADAR audient

Cenzo Townshend Cenzo's credits include Kaiser Chiefs, Block Party, Editors, The Delays, Snow Patrol, Maccabees... the list goes on.

They both own an Audient Mixer & Radar Recorder

There must be a reason, call Garry Robson on 020 8418 0778 and start the journey...

Stirling Audio @ SCV London

SCV Electronics Limited, 40 Chigwell Lane, Oakwood Hill Industrial Estate, Loughton, Essex, IG10 3NY, UK
T: +44 (0)20 8418 0778 • F: +44 (0)20 8418 0624 • www.scvlondon.co.uk

Diary of Events – 2008

January 17-20

NAMM 2008

Anaheim, CA

January 27-31

MIDEM 2008

Cannes, France

Jan 30 - Feb 1

Broadcast LIVE

Earls Court, London

February 4-7

CSTB 2008

Moscow, Russia

February 11-13

EnTech

Sydney, Australia

February 13-14

AFIAL Convencion 08

Madrid, Spain

February 23-25

BES Expo 2008

Delhi, India

March 4-6

CabSat 2008

Dubai, UAE

March 4-9

CeBIT 2008

Hannover

NEW PRODUCT

Harbeth Audio M40.1

West Sussex-based Harbeth Audio has unveiled its long-awaited new M40.1 reference monitor. A three-way design based on the original Monitor 40 which was designed as a broadcast and professional studio monitor, the M40.1 features a new Harbeth-designed bass unique with a low-frequency response perfect for more lively environments, the culmination of a 12-month research program initiated when the previous model's bass unit was no longer available. A prototype M40.1 was evaluated at the BBC research department's anechoic chamber at Kingswood Warren in Surrey. "The BBC's facility is one of the best in the world, and gives us the confidence that the updated M40 will satisfy the discerning customer in the studio," stated Harbeth Audio's Alan Shaw.

Harbeth Audio
+44 (0)1444 484 371
www.harbeth.co.uk
Fidelis AV
+1 603 437 4769
www.fidelisav.com

LONDON, ZURICH, PARIS

Broadcasters New Vistas

Leading European business news channel CNBC Europe has commissioned a Studer Vista 5 compact digital broadcast and live console as part of its facilities refurbishment program; Swiss TV content producer Ringier TV has also purchased a Vista 5 to create the pay-TV content for the UEFA Champions' League, Swiss national football league, and the country's National Ice Hockey League A; plus Paris-headquartered news channel BFM TV has become the first customer in the French television sector to deploy the Vista 5 (replacing a relatively new digital console from another manufacturer that had exhibited reliability issues).

Studer UK
+44 (0)1707 668 097
Studer USA
+1 818 920 3206
www.studer.ch

LONDON

Broadcast LIVE & VideoForum 2008

The newly-combined Broadcast LIVE & VideoForum 2008 show is all set to take up its rightful residence at London's Earls Court 2 between January 30 and February 1, 2008, focusing on production, post, new media, and IP delivery. With over 200 leading manufacturers and suppliers, over 300 seminars and workshops, and free conference sessions, attendees are invited to kick-start the New Year by seeing all the latest and greatest technology for the sector, while discovering new skills, approaches, and markets. New features for this year include a Footage Zone, IPTV centre, bookshop, and an OB truck.

Broadcast LIVE & VideoForum 2008.
+44 (0)1273 836 803.
www.broadcastvideoforum.co.uk

SINGAPORE

Broadcast Solutions Selects iLive

Broadcast Solutions selected an Allen & Heath iLive digital system (iDR10 mix rack and iLive-176 control surface) to manage the recent Barclays Open golf championship.

www.allen-heath.co.uk
www.allen-heath.com

LONDON

CTV Turns To Calrec For Fox Sports

NFL host broadcasters Fox Sports deployed CTV's Calrec Alpha-equipped flagship OB9 HD trucks to broadcast the New York Giants v. Miami Dolphins American football game in front of a 90,000-strong sell-out Wembley crowd.

www.calrec.com

LONDON

(BBC) Dances With Soundcraft

Entertainment pro audio specialist John Henrys supplied a Soundcraft Vi6 live sound console to handle the floor sound, VT, and voiceovers for the BBC's *Celebrity Come Dancing* show.

www.soundcraft.com

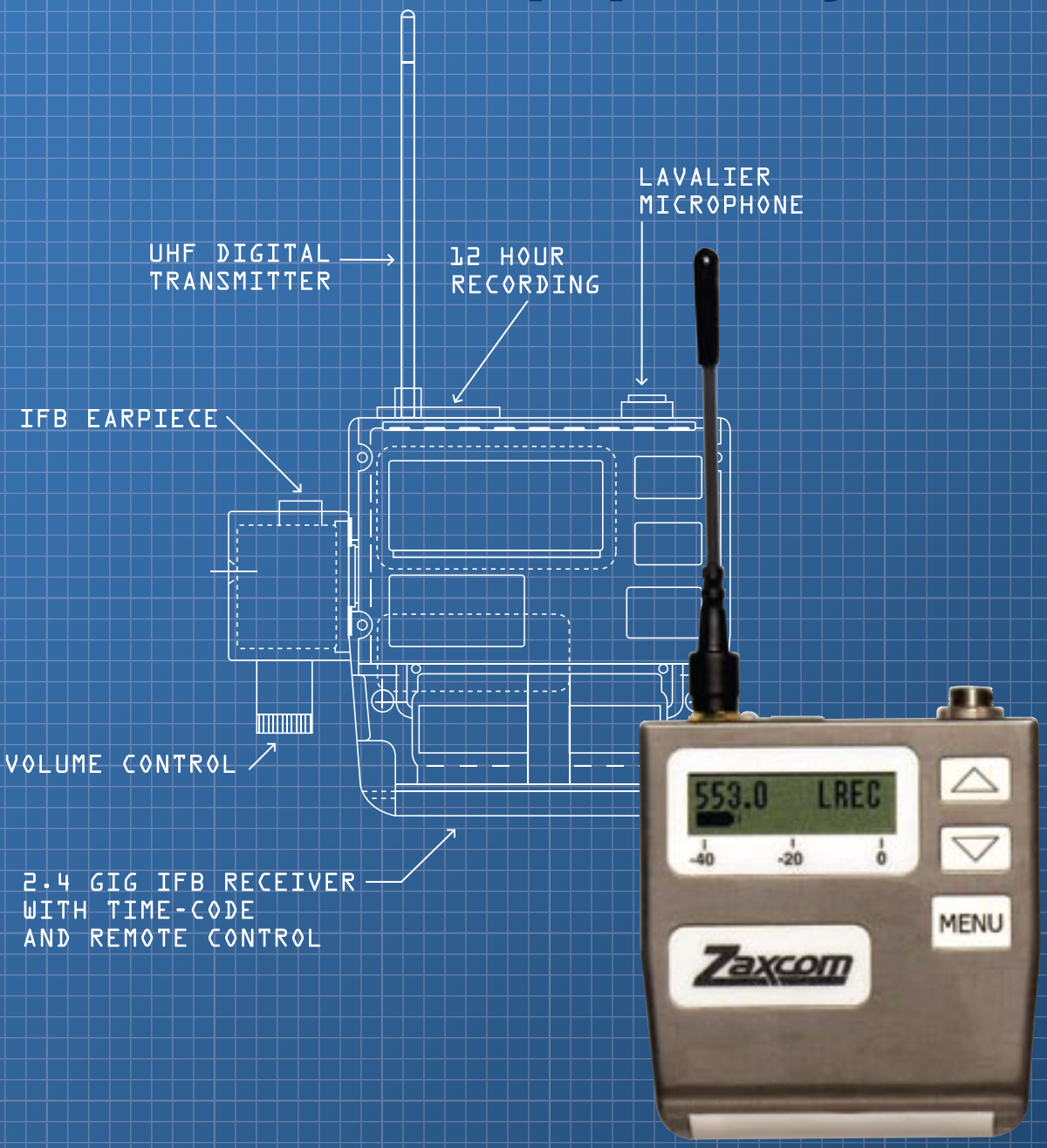
HELSINKI

YLE Broadcasts With Lawo

Finnish national broadcast YLE has equipped its new Studio 25 within the YLE Broadcast Centre with a 16-8-8-fader-configured mc[squared]66 console and a 144 DSP-channel-capacity HD Core.

www.preco.co.uk
www.lawo.ca

It's not just on paper anymore.



Zaxcom's TRX900 is a quantum leap in wireless microphone functionality and quality featuring high resolution audio recording with time code (Pat pending), diversity IFB receiver, remote control and compander free 100% digital transmission.

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To learn more visit www.zaxcom.com

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CROWN INTERNATIONAL
Award

Crown International's Senior Vice President of Research has been selected by the Audio Engineering Society's Awards Committee and Board of Governors to receive the AES Fellowship Award in 2008 for "...significant contributions to power amplifier design and electronic networking of communications systems..." which will be presented during the 125th AES Convention in San Francisco in October 2008, which also marks the Society's 60th anniversary year.

Harman Pro UK
+44 (0)1707 668 222.
www.harmanprouk.com
Crown International
+1 574 294 8000
www.crownaudio.com

SAE INSTITUTE
Award

The new Middlesex Skillset Academy – a three-way partnership between practical audio education specialist SAE Institute, Middlesex University, and Top TV Academy – has been awarded Skillset Media Academy status by the UK Government for the excellence and forward-looking nature of the media-related courses and education collectively delivered by the partnership. "We have been a global partner of Middlesex University for the past ten years, so the Skillset partnership is yet another milestone," commented Matthias Postel, Head of SAE Institute in the UK.
Middlesex University
+44 (0)20 8411 5093
www.mdx.ac.uk
www.sae.edu

LAB.GRUPPEN
Training

Lab.gruppen has announced a number of worldwide dealer network training sessions for its PLASA07-launched Powered Loudspeaker Management (PLM) products, the first of which took place at the company's Kungsbacka facility in Sweden.
www.audioforce.co.uk
www.labgruppen.com

APPLE
Pricing

Within six months Apple will lower the prices it charges on its UK iTunes Store to match the already standardised iTunes pricing across Europe in Austria, Belgium, Denmark, Germany, Finland, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland, and Spain.

www.apple.com

TRANSAUDIO GROUP/TRUE SYSTEMS
Distribution Agreement

TransAudio Group has been appointed the exclusive worldwide distributor for TRUE Systems products.

www.transaudiogroup.com
www.true-systems.com

FAIRLIGHT
Award

20-plus-year Fairlight users Music and Effects of Melbourne has scooped the Best Sound award in the feature film category for Noise at the 2007 AFIs, Australia's premier film and television awards.

www.tekcare.co.uk
www.fairlightau.com

QSC Audio
Appointment

QSC Audio has named Dale Sandberg as its new Senior Product Manager, taking charge of guiding the development of the Californian manufacturer's installed sound product line.

www.shure.co.uk
www.qscaudio.com

SYMETRIX/MIXWAVE
Distribution Agreement

Symetrix has appointed Tokyo-based MixWave as Japanese distributor of its Symetrix, SymNet, AirTools, and Lucid brands.
www.symetrixaudio.com

RAINBOW POST
Website

Soho-based post-production facility Rainbow Post has launched its revamped website, including direct access to its FTP site, downloadable video, and HD audio production advice.
www.rainbowpost.com

SENNHEISER UK
Appointment

Alan March has joined Sennheiser UK as Business Development Specialist after 21 years in various roles at HW International and Shure Distribution UK.

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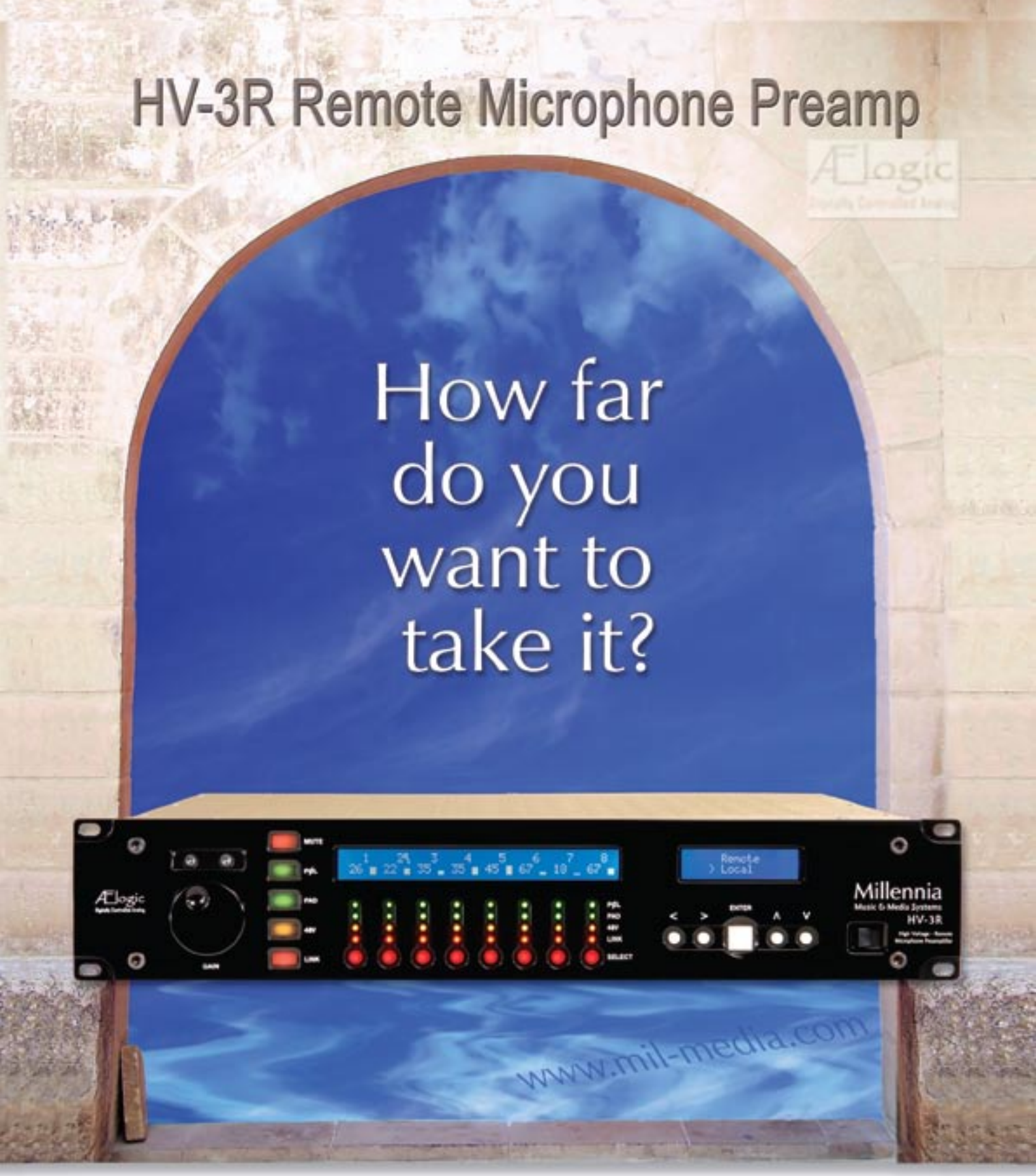

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HROE option for three outs/channel

whatsupuk@audiomedia.com

The Beeb, And The Bees At C4

KEVIN HILTON looks at the big job of breaking up BBC Resources, while Channel 4 hands over technical responsibility to Red Bee Media.

Since August last year the UK broadcast community has been waiting for the short-list of bidders vying for the assets – and contract books – of the businesses that make up BBC Resources. This is the culmination of a massively significant shift in the way the UK public service broadcaster operates, following the divestment of play-out and branding division BBC Broadcast, now part of the acquisitive Macquarie group under the name Red Bee Media, and systems integration and IT department BBC Technology, owned by Siemens.

That would be enough to look forward to – and enough of an upheaval in the market – but during November came the announcement that Channel 4, the one-time minority interest commercial broadcaster, wanted to stop providing its own technical operations and facilities and hand over responsibility for all that to Red Bee Media.

Red Bee is a leading example of outsourcing in the UK broadcast market and became a fully commercial company, as did Siemens IT Solutions and Services, after a Commercial Review that concluded the BBC should own only businesses that exported or exploited its brand or programmes. The same report said that while what BBC Resources supplies to the Corporation is crucial there was no need for it to be owned by the BBC any longer.

Division Of Resources?

BBC Resources is a commercially run subsidiary of the BBC, with programme makers booking facilities and employing staff as they need them. It operates studios at Television Centre in west London and Elstree; post-production facilities in London, Bristol, and Birmingham; and a fleet of 15 production vehicles.

The BBC's ideal situation appears to have been for Resources to be sold as an entity, but there are only a very few potential buyers that could take on an operation of that size. The likelihood is that the company will be split into its constituent parts to be bought by specialists in each sector. Certainly the major OB companies have been kicking the tyres of the BBC's trucks, with Fleetwood Mobiles apparently interested in the sound vehicles, and on-the-rise facilities group Prime Focus looking at the post-production division.

Each part of BBC Resources has its attractions and turnoffs, but the studios department was arguably the most problematic. Any new owner had the prospect of leasing the studios at Television Centre (TVC) from the BBC but that annoyance has been removed by the BBC Trust announcing during 2007 that TVC would be sold off in another bid to cut costs. The Pinewood Group has been rumoured to be interested in buying BBC Studios, and being able to buy the building as well would appeal to such a company as the non-studio areas could be re-developed and leased.

The BBC was hoping to announce a list of preferred bidders early in the new year, with the sale of BBC Resources and transfer of its staff expected to be completed by the end of March, subject to contract negotiations and approval from the BBC's Executive Board and the BBC Trust.

New Buzz At C4

Similarly C4 is waiting for the contract with Red Bee to be completed and for discussions with staff to conclude satisfactorily for the transition of the broadcaster's Channel Operations and 124 Facilities departments. This involves over 100 people working in the broadcaster's engineering, transmission, post-production, library, and on-air graphics divisions.

Red Bee was chosen as the new outside contractor after a competitive tender. If the deal goes through C4 staff in the relevant departments will become Red Bee employees and transfer to its headquarters at White City in West London, although those in post-production and graphics will remain at the broadcaster's premises in Victoria.

Rumours that C4 has had a tough time of late persist and were perhaps confirmed in the announcement of the proposed transition to Red Bee. The broadcaster expects to make annual savings of between 10 to 15 percent and its group finance director, Anne Bulford, said, "Making our unique public service content available across new digital platforms is placing considerable financial and technological demands on the channel. Outsourcing these functions will allow us to tap into the more considerable and flexible resources of a big, specialist provider and help us stay competitive in the face of rapid technological change."

C4 had already decided to close its TV studio, part of 124 Facilities, but the outsourcing deal will bring further savings and additional space for the broadcaster's radio studios, with new digital services due to launch this July.

SPECTRUM SAVED?

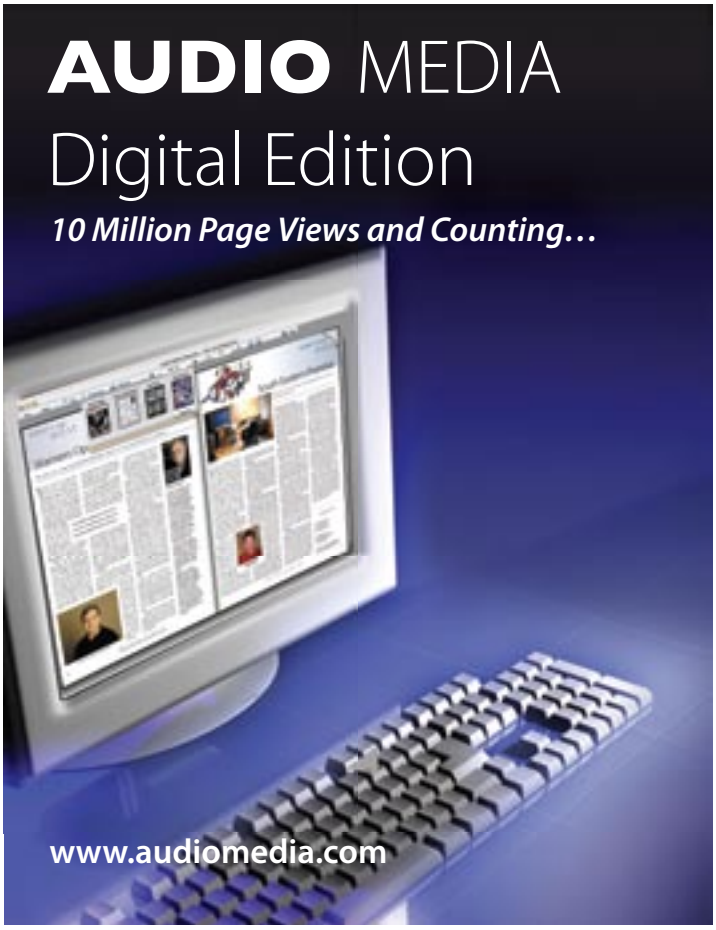
After much lobbying and arguing, the programme making and special events (PMSE) sector has received a special place in new proposals issued by UK frequency regulator Ofcom. This outlines how the radio spectrum will be used after the switchover to digital TV in the UK, an event much anticipated by broadcasters and mobile phone operators.

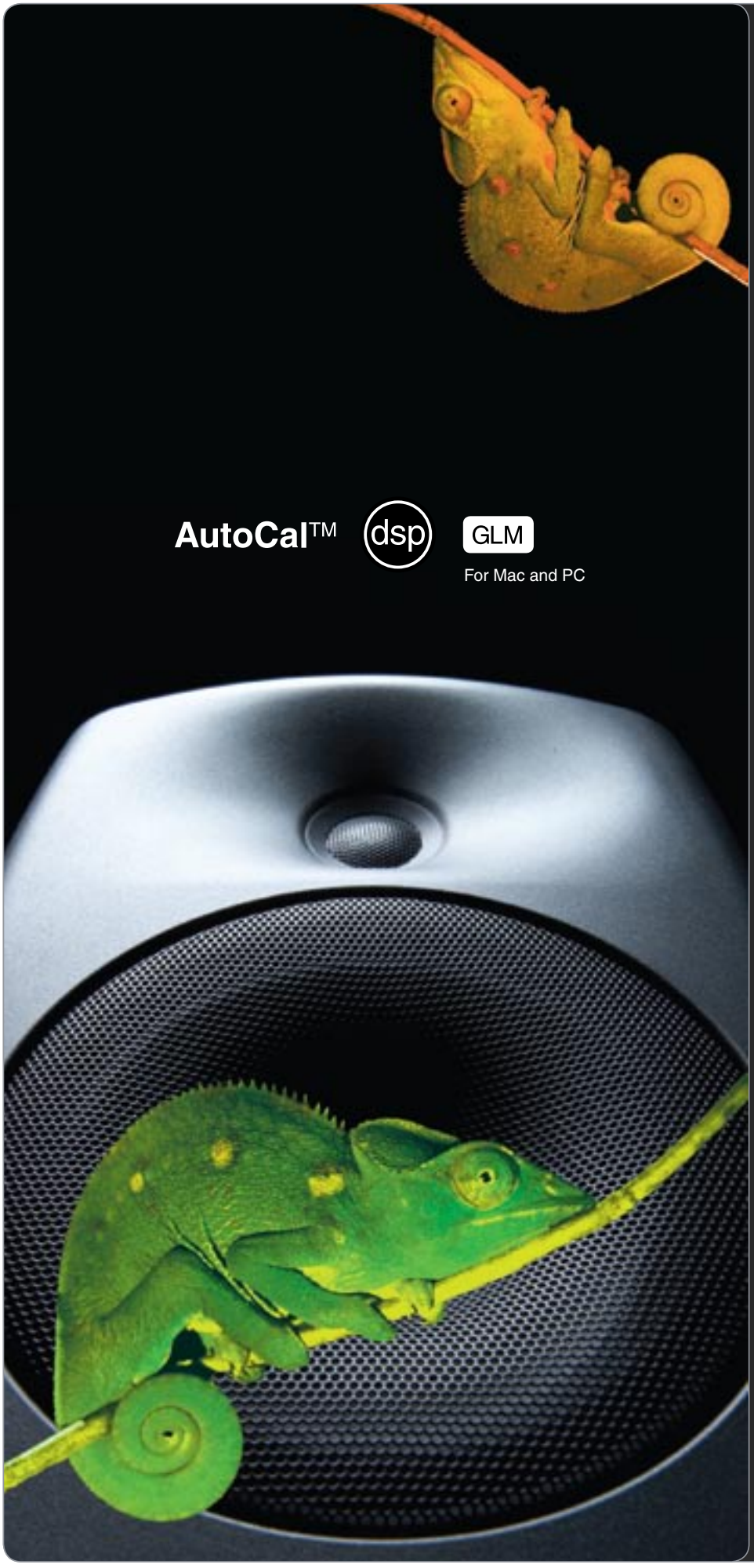
There was concern that users of wireless microphones, in-ear monitoring devices, and radio link cameras would have fewer options for usable frequencies as the PMSE community would have to bid for spectrum in the same way as more financially powerful media and telecom groups.

In a statement Ofcom said that PMSE had a "compelling case" for reserving spectrum for a particular use, thereby avoiding "the risk of market failure in an auction".

This would be done by holding a "beauty contest" to award the majority of available interleaved spectrum to a band manger, which would administer the frequencies for PMSE use.

There are still concerns about the future use of spectrum, particularly with new EU proposals for new media devices. All this and comment from SPUME users in next month's What's UP UK.





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VIOLET AMETHYST

VINTAGE DUAL LARGE-DIAPHRAGM CONDENSER

ROB TAVAGLIONE considers Violet's well-designed, carefully crafted Latvian mic a first pick for solo vocals of all kinds.

Its design elements may look vaguely familiar: a detached capsule housing, insect-like segmentation, and well-made Art Deco styled accoutrements. But the Amethyst Vintage is the pride of a relatively unknown manufacturer/designer: Violet Microphones, based in Riga, Latvia. Benefiting from the talents of Juris Zarins – an original designer for pro audio neighbors Blue Microphones – Violet now offers an extensive line of high-end, condenser microphones at reasonable prices. I recently had the opportunity to use the Amethyst Vintage (and Violet's Grand Pearl, see accompanying mini-review), and I found both to be worthy of attention.

Features

The Amethyst Vintage (AV) is a dual-diaphragm electrostatic condenser specifically designed to have a "warm, classic sound, not unlike legendary vintage studio microphones." (The Amethyst Standard uses one diaphragm for a "modern sound").

The AV's two 26mm by six micron Mylar diaphragms are sputtered with a combination of gold and aluminum to achieve better transient response, wider frequency response, and higher output. The AV's wide-cardioid-only pattern (typical for dual-diaphragm designs), absence of filters or switches, and sleek styling (a distinctive detached-square capsule housing) makes for a straightforward experience in looks and function. Its specs are as expected: 20Hz - 20 kHz frequency response, a low seven dB-A of self-noise, a 134dB maximum SPL and a 50-ohm output impedance.

In Use

The AV allows direct mounting to a stand without a clip, but I tried the supplied shockmount. It's small but adequate, and this luxurious-looking elastic spider and the mic's visual appeal will help inspire timid singers and savvy clients. Despite the shockmount and wide rectangular body, the size of the AV and shockmount will allow some tight placements.

I first tried the AV on my own soft, husky backup vocals, and I found just what I had expected. A strong, full bottom was there, and as I leaned way in for proximity effect I found a very workable "zone" of musical, manageable bottom boost (again, typical for dual diaphragm). The top was smooth, too, but with a noticeable bump around 10kHz that helped definition without being too sibilant.

The next day I had a very thin-sounding, sibilant soprano vocalist coming in, and the AV was put up next to her usual ribbon mic. She was immediately excited by the AV's present top (certainly, as compared to the ribbon); I was concerned, however, that we might be missing some much-needed bottom. A quick repositioning of my pop filter to allow closer placement got the AV's proximity effect in the game, and it added a nicely balanced tone. A touch of bass boost and de-essing was still required in the mix, but the AV's "classiness" shone through, lending a vaguely vintage mood to her '70s-inspired music.

The following day I recorded a wildly unpredictable female rocker (an alto), and was skeptical of the AV's ability to handle her extreme dynamics; I have heard many a diaphragm bottom out from her sustained crescendos. With a Manley TNT preamp (the tube side) and an Empirical Labs Distressor patched in we got a gorgeous vocal that captured all the power of her loud passages, and all the subtle detail of the quiet ones, as well. In fact, this mic was more linear and consistent under such divergent conditions than just about anything I've used previously.

Solo acoustic guitar did reveal some Amethyst limitations, as its placement seemed unexpectedly very sensitive. Its healthy, flat bottom resulted in muddiness if I miked the dreadnaught guitar's body anywhere near the sound hole. I found a nice placement between the bridge and hole (for mono "middle"), but I required two more mics to get upper mids, string sparkle and harmonics. Electric guitar was similar, with the AV yielding a thick, warm tone that wasn't quite "modern" enough for me, but may work well depending on your source and goals.

Later I had a three-piece horn section come in for overdubs, and the AV's top boost at 10kHz proved too much for trumpet, but it did nice things for both tenor sax and trombone. I finally settled on trombone – with placement at about 18 inches on axis – and received a strong, but un-hyped bottom end, as well as a clear pleasant top end (absent of unwanted hype). This mic can do many smooth things on horns that many condensers don't, in situations where you'd often reach for a ribbon.

Conclusion

Although capable of wide applications, I think the versatile Amethyst Vintage is a first pick for solo vocals of all kinds. This mic will shine where you may normally go with a U67: when fullness and presence are required. With quality construction, superior design, a "modern/vintage" sound and a reasonable street price, I recommend this mic to update old veterans' closets, as well as the "my first great vocal mic" for aspiring professionals.

INFORMATION

Ⓕ **GB£549.00 (Standard), GB£749.00 (Vintage), (RRP)**

Ⓦ **Violet Design Ltd., PO Box 3393, Tallinn, 10506, Estonia**
Ⓣ **+372 645 5007**
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Ⓦ **www.violet-design.com**
Ⓔ **info@violet-design.com**

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THE REVIEWER

ROB TAVAGLIONE owns and operates Catalyst Recording in Charlotte, NC.

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The **PRE420** is a 4-channel mic-preamp with a plethora of features, including built-in, independent stereo mix and solo busses. The sonic performance of the **PRE420** has been described as making the instrument "sound like it's being played right in front of me!" It delivers the audio with such clarity that no textures are lost or obscured by distortion or noise. The remarkably low noise floor spans a wide range of gain setting, making the **PRE420** the perfect pre-amp for ribbon microphones. For room and ambient recordings, the ultra-low distortion performance puts the listener in the live room. Also, the **PRE420** circumvents "Murphy's Law" with its bullet-proof "phantom-hot-plug" protection circuitry and incredible RF immunity.

The **ADC1 USB** is a reference-quality, 2-channel, 24-bit, 192-kHz A-to-D converter. The UltraLock™ clocking system delivers unvarying mastering-quality performance - regardless of clock source. The **ADC1 USB** offers variable input gain from -6 to +39 dB to interface directly with a wide range of devices. Precise levels are easily achieved with the 9-segment, dual-range LED meter.

The **DAC1 USB** is a reference-quality, 2-channel, 24-bit, 192-kHz D-to-A converter. The **DAC1 USB** continues the legacy of the **DAC1**, which has become a staple of control rooms around the world. The AdvancedUSB™ input supports native 96 kHz, 24-bit operation without cumbersome or invasive driver software. The built-in, 0-ohm HPA2™ headphone amplifier provides ultra-low distortion headphone monitoring.

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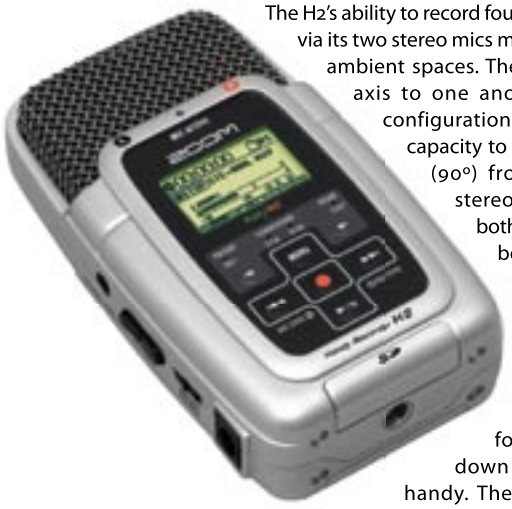
A toy it may appear, but a joke it isn't, finds ANDY STEWART as he takes a closer look at Zoom's tiny recorder offering.

ZOOM H2
HANDY RECORDER

The smaller, less flamboyantly shaped Zoom H2 'Handy Recorder', actually reminds me of an old electric razor I once owned. It's virtually the same size but its cutting edge nature is a little different… Unlike the Zoom H4, the Zoom H2 is a genuine pocket sized two- or four-channel recorder, housing two dedicated stereo mics. These mics are embedded in the headstock back-to-back, facilitating what could be best described as 'quadraphonic' recording – a surround sound capture device minus the 'centre' and sub.

Feature Set

There are many other features the H2 offers, like a chromatic tuner, a metronome, on-board limiters, and compressors, but none are more appealing than this.



The H2's ability to record four channels simultaneously via its two stereo mics makes it great for capturing ambient spaces. The two mics face 180° off-axis to one another in a side address configuration, giving the unit has the capacity to record in fixed X/Y stereo (90°) from the front, wide X/Y stereo (120°) from the rear, or both simultaneously. Selecting between these options via the left/right arrow keys on the front panel is a cinch.

The unit is also capable of recording 'surround sound' as a four-track file or a folded down two-track file, which is handy. The only downside is that, in four-channel recording mode, the resolution drops from 24-bit/96k to 24-bit/48k, which is a shame. The unit is nonetheless a high quality quasi-surround and stereo recorder, which can be ready for duty at a single button press. The H2 is more than capable of acting as an ambient field recorder, a 'dual-stereo' desktop-style interview mic (facing the interviewer and interviewee), or as a self-contained recording device for countless other situations where a lightweight, simple to use, digital recorder might be required. To that end the H2 is very much an audio consumer device – it's cheap, lightweight, portable and a piece of cake to operate. In fact, it's so light that at one point during an outdoor recording session the unit actually blew over, although to be fair it was blowing 30-knots! In that circumstance the foam pop shield also managed to act as fairly crude shock absorber…

In Use

When I reviewed the larger Zoom H4 I used that unit to 'freewheel record'. That is, I had it permanently tracking during a session independently of the main computer. The lengthy file it captured was then later flown into the session, edited up and manually sync'd with the main recording session files. The results were fantastic. It stands to reason then that the newer H2 could also be placed virtually anywhere thanks to its small upright stature, sturdy little tripod stand and bantam weight (110g).

Sonically the H2 is remarkable. For the price the recording quality is quite amazing. Any audio the unit captures via the built-in mics sounds very smooth and articulate. The H2 also has a mini-jack external mic input (if you'd prefer to use your own mics) and separate headphone and line outputs with a physical up/down volume control for monitoring. There are hi-pass filters for all the mics and a simple to use three-position gain control can also be fine tuned with the H2's dual function rewind/fast-forward buttons on the front fascia. Like the H4, the H2 also has a built-in USB 2.0 interface that facilitates the easy transfer of files into a computer. Moreover, whenever the supplied USB cable is connected to a computer the H2 turns into a full duplex external audio interface. So rather than relying on the internal SD card, files can be recorded directly from the unit into your computer.

The H2 accessories include: AC adaptor, reasonable sounding earphones, stereo mini jack-to-RCA cable, USB cable, foam pop shield, 512MB SD card, plastic microphone 'grip' adapter (for not so silent handheld operation) and a tripod stand (which makes the H2 look like a three legged wind-up robot toy). Batteries are not supplied.

There are so many portable recorders on the market nowadays we really are becoming quite spoilt for choice. More than any other reason, your budget will be what steers you towards one product over another. Most of the units on the market today sound very good so it's more a question of what facilities you require and how durable you need your recorder to be. In that regard, the Zoom H2 feels a bit more like a consumer device thanks to its plastic casing and switches – none of which are exactly bullet proof. Regardless, the Zoom H2 can claim pole position as one of the smallest, lightest, and least expensive portable recorders on the market, and for the price the H2 sounds great. It's versatile and simple to use, offers lots of connectivity and the dual stereo recording option is brilliant. If you need a highly portable and low-cost digital recorder that doesn't need to survive life inside a cement mixer, the H2 is really very hard to fault.

INFORMATION

£ GB£149.95 (inc. VAT)

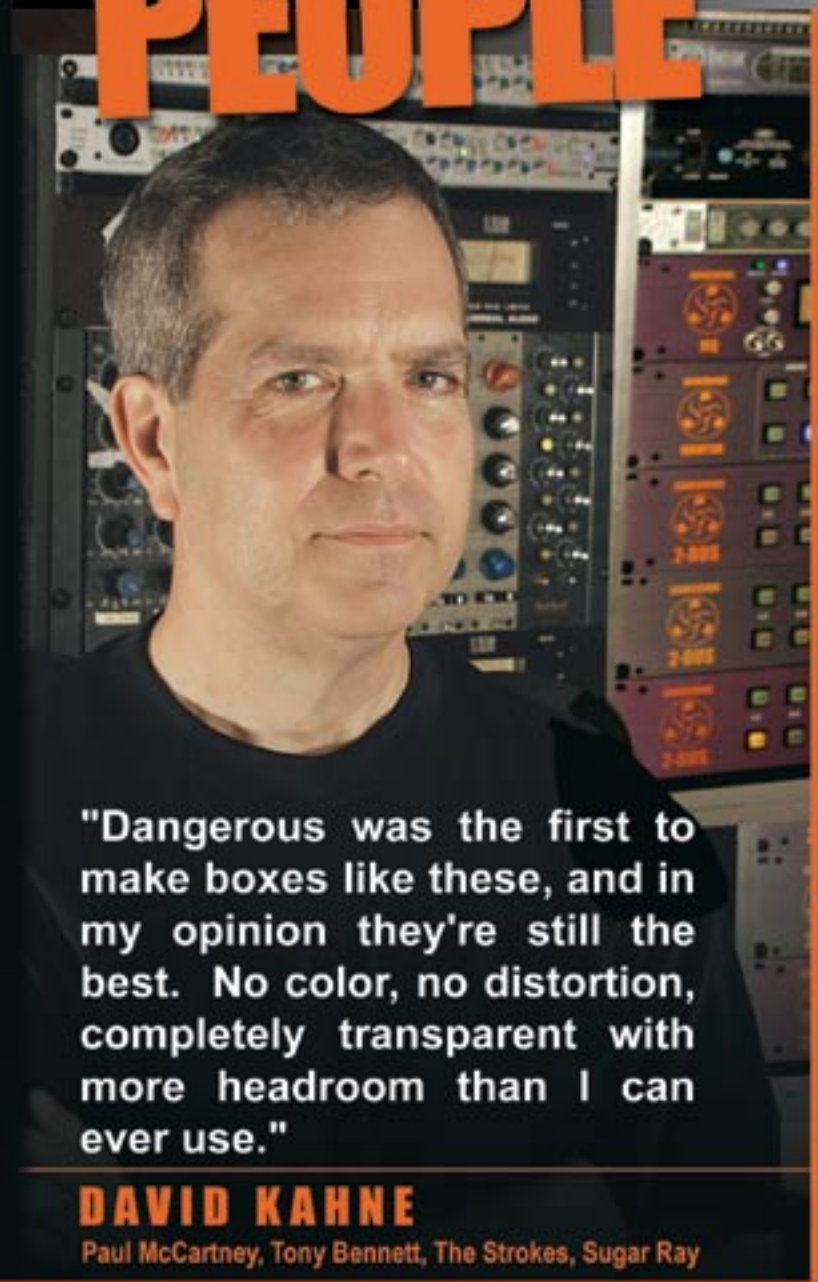
Ⓐ Zoom Corporation, 2F, ITOHPIA Iwamotocho 2-chome Bldg., 2-11-2 Iwamoto-cho, Chiyoda-ku, Tokyo 101-0032, Japan
Ⓣ +81-3-5835-2206
Ⓕ +81-3-5835-2201
Ⓦ www.zoom.co.jp
Ⓔ info@zoom.co.jp

Ⓐ Zoom UK, 15 Weston Barns, Hitchin Road, Weston, Herts, SG4 7AX
Ⓣ +44 (0) 1462 791100
Ⓕ +44 (0) 1462 481149

THE REVIEWER

ANDY STEWART is the Editor of *Audio Technology* magazine.

DANGEROUS PEOPLE



"Dangerous was the first to make boxes like these, and in my opinion they're still the best. No color, no distortion, completely transparent with more headroom than I can ever use."

DAVID KAHNE

Paul McCartney, Tony Bennett, The Strokes, Sugar Ray

"The Dangerous 2-BUS is my go-to piece of equipment. I tried a bunch of different summing amps and when I hit the Dangerous I said, 'That's It!' "

ROBERT CARRANZA

Jack Johnson, Los Lobos, Ozomatli, Beck

WHAT DO THESE GUYS HAVE IN COMMON BESIDES MAKING HIT RECORDS?

They are Dangerous People - Grammy Award-winning engineers and producers at the top of their game who have chosen Dangerous Music gear as the core system for today's state-of-the-art hybrid studio. For more info visit www.dangerousmusic.com

YOU WILL HEAR THE DIFFERENCE

BRAD WATTS looks at the new micro bus-powered interface that'll get guitarists' juices flowing.

Novation is continually coming up with cool kit. It's been a hallmark of the company since the QY10 companion keyboard was released in the early '90s. The Yamaha QY10 was a video cassette-sized scratchpad sequencer and sound

Module, and Novation's keyboard offered an elegant solution to the QY10's miniscule makeshift keyboard. The BassStation keyboard hit the shelves shortly afterwards and cashed in on the TB303 frenzy of the day. At the time there was little on the market that could emulate the jaunty single oscillator tones of the TB303, and even fewer synths that would send MIDI controller information for each and every knob. In an ongoing spirit of ingenuity, Novation has released a sweet little USB 1.1 (USB 2.0 compatible) interface that includes some fabulous effects processors.

NOVATION NIO 2/4

USB INTERFACE

Overview

I'll get to the effects shortly, but first let's go through the physical attributes of the Nio 2/4. It's certainly portable – about the size of an open palm – and entirely derives its power via the USB 2.0 bus. It's tiny but solid, and the chunky serrated pads on the underside keep it from slipping around on your desktop. There are two headphone outputs with dedicated volume controls for each; the only model with two headphone outputs in the -£150 price bracket. The headphone outputs are situated at the front, along with a multi-impedance jack input for guitar, line level or microphone input – a slide switch at the side flicks between the three impedance options. Alongside this switch is another for flipping between mic or line input for the rear XLR mic input, then a further switch for activating phantom power. I'd like to make special mention of the switches – they're those generic, black, sliding switches with the serrated top (for grip) that you'd find on an old transistor radio. They're solid, give a very agreeable click when prodded between positions, and look as though they'll last until kingdom come. On the rear of the unit are the two RCA line inputs, and four RCA line outputs. Then there's the XLR mic input, MIDI in and out, and the USB connector.

Direct Approach

The Nio arrives with its own 'Direct FX' processing software – the Nio FxRack. When it comes to the big, value-for-money drawcard, this certainly is the clincher. This software is built for low-latency, live jamming, and sounds very good. As to the effects on offer I think you'll be as surprised as I was. To start with, there's EQ, compression, reverb, and gating supplied by none other than Focusrite – which also happens to be Novation's parent company. The EQ can be set to act as shelving or parametric and is not to be sneezed at. The reverb ain't too shabby either. Then there's a group of effects modelled on the SuperNova II effects section. These include your usual time-based effects such as delay, chorus, and phasing. Again, they're fabulous effects – if you've ever been near a SuperNova you'll know the score. Finally, there's a set of four guitar amp simulators, and a chromatic tuner (that works!). The emulations are courtesy of the Overloud designers and offer a Vox AC30, Marshall JCM900, Fender Twin, and a Mesa Boogie rectifier-style amp head. These can all be crunched further with emulations of various distortion pedals such as the Boss DS-1 and Ibanez Tube Screamer. Clearly the guitar wielding home recordist is being targeted with this bunch of effects but I can see many guitarists appreciating the Nio 2/4. I definitely spent a lot of time noodling away with the Nio effects rack.

Conclusion

If all of this isn't enough of a deal clincher for you, I've been informed that these effects will soon be able to be used as VST/AU plug-ins when a Nio is recognised on a system. That way you'll be able to integrate all these virtual racks into your DAW software as well. I'm well impressed with the Nio 2|4. At $199 the package is worth it for the Focusrite effects and guitar cab simulations alone. For my money, possibly the best bang for your buck I've seen for some time.

INFORMATION

£ GB£149.00 (inc.VAT) / US$199.00 (MAP)

Ⓐ Novation Digital Music Systems Ltd., Lincoln Road, Cressex Business Park, High Wycombe, HP12 3FX
Ⓣ +44 (0)1494 462246
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THE REVIEWER

BRAD WATTS runs Left Right Centre Studios in downtown Sydney. He's one of Australia's foremost Mac and Logic troubleshooters.

ALISTAIR MCGHEE sounds out the unsung heroes of sound card production with two very different cards from the Marian range.

MARIAN UCON CX & TRACE PRO

SOUND CARDS

In all areas of human endeavour there are those who garner praise almost without trying, and those who languish unrecognised despite noble efforts. In the world of sound card production, Marian are very much the unsung heroes of the genre. I've been using their products for years now, and in the days when I built and supplied systems for audio production, their Marc2 card was my stock in trade. I was initially attracted by professional features like decent connectors and drivers, and stayed because the cards were so reliable (I've never had a failure) and easy to install (I've never had one refuse).

The last card I supplied was a balanced version of the Marc 2 to a local radio station whose engineer was a bit suspicious of a name he'd never heard before. I saw the boss a month or so later who took great delight in telling me the engineer was now a convert to the Marian cause.

The Chosen Ones

For this review I chose two different products from current the Marian stable: the Ucon CX USB2 interface and the Trace Pro PCI card. The Ucon CX is a half rack width box featuring eight balanced analogue inputs (four mic/instrument inputs on XLRs with 48 volt phantom), eight balanced outputs on quarter inch jacks, ADAT in and out (or SPDIF) and MIDI. My experience of USB audio on PCs is a bit of a mixed bag.

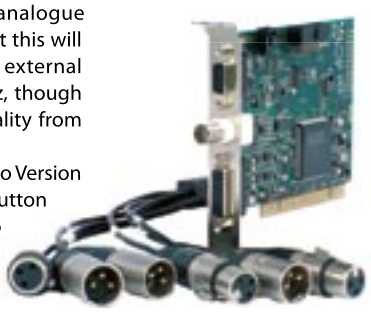
Most of the USB devices I have tried (even very, very expensive ones) have suffered from induced noise problems, usually related to mouse movements. So you move the mouse and you get low level zippering across the audio output of the USB device. Often the problem is intermittent but it's always a drag. The other problem that has dogged some USB interfaces is earthing issues resulting in hum on the outputs.

The Ucon CX suffered from none of these problems on the laptop and desktop I tried it on. The front panel sports the four XLR inputs, each input has a 20dB pad, a signal presence LED, and an over LED. Phantom power is applied globally and there's a front panel jack socket for headphones. Round the back, four more line inputs, eight outputs, and a stereo mix out – all on quarter inch jacks. Digital I/O is on optical, and there's MIDI connectivity alongside the DC input from the external power supply. With four mic amps on board, the Ucon is a handy device for your tool bag. There's just under 50dB of gain so you won't be using your classic ribbon mics, but there's enough oomph for dynamics and full-fat phantom power for mics that require it. The mic amps are quiet enough to let you get on with with the business of recording. The Ucon comes with a comprehensive software package that allows you full control of settings including a nice real time display of many mysterious USB parameters including the all important errors on playback/record. The digital side of the box can run ADAT or SPDIF and the Ucon can stand alone without being connected to a computer and used as a converter.

Tweaking the latency down to 3ms (@44.1kHz) is possible on my fairly run of the mill Core 2 Duo machine although of course for better stability higher numbers are better. This is the best USB interface I've seen and one that can rival the more common Firewire devices for flexibility and performance.

Top bits – audio performance, mix out, four mic inputs, works as a stand alone converter, comprehensive software. Quibbles – MIDI control of the mixer would be nice, no hardware gain controls, very very bright blue LED on the front panel, and you do have to have to use an external power supply.

And now to Trace Pro, which although much less visible (no blue LEDs – not much point on a PCI card) might well be just the thing for pro audio. The Trace Pro aims to provide simple but effective audio interfacing in the professional world. Stereo balanced analogue connectivity on XLRs and AES digital mean that this will drop into studio or broadcast work without external packs or boxes. The card will run up to 192kHz, though at this sample rate you lose aux bus functionality from the mixer.



Talking of the mixer, it's had a recent update to Version 2 and now includes a very neat mono/stereo button on each pair of channels which allow mono strips to be ganged to one fader – very handy, and hopefully it will be implemented on the Ucon soon. Just like the Ucon, the Trace has a clear and direct dialogue for dealing with latency and the ability to do setup with a test tone makes life nice and easy. On my fairly unexceptional machine I could get down to 1.3 milliseconds at 44.1 and at these very low latencies the Trace seemed more stable than the USB route of the Ucon.

Having banged on about Marian driver stability, the Trace driver refused to load when I returned to the system after a fairly miserable journey to France for the Rugby World Cup. I took the opportunity to upgrade to the new Version 2 driver, and I was interested to see that the Trace looks after its own firmware upgrades which was a pleasant surprise. The new driver includes Vista support – lost on me – I'm still excited about upgrading to XP a couple of months ago.

Conclusion

The Trace series of cards offer sophisticated interoperability via the TDM bus enabling complete flexibility of routing within a multi-card set-up. I enjoyed some of the small but really useful features, like multiple level presets on the analogue outputs, pre and post options on the aux sends, and the separate output mixer. The audio performance is really good and to be honest it's a shining example of a card that should be better known. Have a look at all Marian have to offer at www.marian.de and next time you need balanced audio in and out of a PC, check them out.

INFORMATION

£ **Ucon CX USB2, Euro 529,00**
Trace Pro – Euro 409,0 0

Ⓐ **Marian Digital Audio Electronics Eisenacher Str.72 04155 Leipzig Germany**
Ⓣ **+49 (341) 589320**
Ⓕ **+49 (341) 5893212**
Ⓦ **www.marian.de**

THE REVIEWER

Alistair McGhee began audio life in Hi-Fi before joining the BBC as an audio engineer. After ten years in radio and TV, he moved to production. When BBC Choice started, he pioneered personal digital production in television. Alistair is now Assistant Editor, BBC Radio Wales, but is allowed out occasionally.

ARN – THE KNIGHTS TEMPLAR

STEPHEN BENNETT talks to Erik Guldager of Europa Sound Production AB on the challenges of recreating the sounds of the 11th Century in an epic adventure tale for 2008, *Arn – The Knights Templar*.

Although Sweden is a country with a small population, it is world-renowned for the quality of its cinematic output. Directors such as Ingmar Bergman and Lasse Hallström have made an international impact with their movies. However, a typical Swedish production is more likely to be a small-scale intimate film produced on a relatively low budget rather than the blockbusters more typical of Hollywood. All this could be due to change with the release of *Arn – The Knights Templar,* an epic historical tale of action, adventure, and romance set in the 11th Century. Directed by Peter Flinth, it is the most expensive Scandinavian film ever made, and features an impressive roster of movie stars, ranging from Sweden's Joakin Nätterkvist, to more internationally acclaimed actors such as Simon Callow and Vincent Perez. *Arn* was shot in Sweden, Morocco, and Scotland, and contains dialogue in many languages. So how much of a challenge did a film of such an epic scale pose to the staff at Europa Sound Production AB in Stockholm?

In The Studio And On Location

Starting out as Europa Film in the early 1930s, the studio's audio post production facility was hived off into a separate company in 1998. This became Europa Sound Production AB in 2006, and in 2007 they moved to their new location in central Stockholm. Mostly concentrating on feature films, Europa covers the whole range of location recording, editing, ADR, Foley, and optical sound transfer. I managed to track down Erik Guldager, Sound Engineer and Technical Manager of the studio, and asked him about the challenges of working on Sweden's biggest film so far. "Our co-owner and Re-recording Engineer, Gabor Pasztor, was the Sound Post-production Co-ordinator for the whole film," he says. Bo Persson, another co-owner, is one of the country's leading location recordists and also worked on *Arn*. "I like to use Cantar digital recorders and Schoeps CMC series microphones with interchangeable capsules," Persson explains, "Audio was delivered to the to the studio on hard drives along with backups on DVD. "We handled the complete sound production for *Arn*," says Guldager, "The visual effects post team was located at Europa too, which helped with the day-to-day workload." The location recording in the various countries took about six months – which apparently is unusual for a Swedish film. "Normally, the location recording for a film takes around thirty days, so this is something of a change of scale for us," says Guldager.

Back At The Studio

"The picture and location sound are sent to the editing suites where we work on them for a long time!" laughs Guldager. OMF and EDLs are provided by the picture editor for re-conforming using Pro Tools and these sessions are then sent to the dialogue editors. Guldager again; "We have ten Pro Tools and two Nuendo systems," he says, "For *Arn* we used six editing suites – three for dialogue, and three for sound effects." Five of the Pro Tools systems are HD with 192 interfaces and we also have a number of MIX systems which get used for dialogue. The Nuendo systems have SSL and RME converters." One of the major new pieces of technology Europa had to contend with during the work on *Arn* was the installation of a new Euphonix 32-fader 5-MC digital mixing console. "We bought the Neve when digital was a new thing in film, because at that time there were really no proper digital consoles for film audio." says Guldager, "There was the Harrison series twelve but that was still a digitally controlled analogue desk. However, we decided to go digital and the Neve has served us well – but with today's schedules and constant revisions we needed a more flexible system. It was a great sounding console, but with modern solutions you get much more visual feedback. It wasn't the easiest change, but we'd do it again today in a flash."

Euphonix In Action

Pasztor used around 400 channels of audio for this film and the film was mixed to 5.1 Dolby Digital and DTS. So how did the console fit into the studio's workflow? "While mixing we can instantly change from controlling dialogue channels to music or effects, regardless of what DAW the tracks are on," he says. "On each side of the control surface we have two workstations that can be switched to control any of the DAWs at the same time as they are being controlled from the Euphonix – which gives us great flexibility." As is usual these days, the studio gets picture and audio revisions right up until the final mix. "In the old days we used to have to re-conform all the stems manually and cut to the timecode information – which would mean we'd usually lose all the easy ways to ▸

go back to the old automation values," says Pasztor. "It was quite cumbersome. When the picture is constantly updated during a mix it used to be a lot harder to bring back material from an earlier version and get the automation correct using a traditional console. But as the Euphonix System 5MC is, in effect, a big controller for Pro Tools and Nuendo, we can just move everything around, and as long as there is automation on the tracks, it will always be in the right place – and this saves a lot of time. We also rely heavily on Virtual Katy, which lets us automatically update sessions according to the different picture changes."

Because of the tight schedules, the staff at Europa didn't have much of an opportunity to play around with the new technology – as Guldager explains. "We'd have liked more time to develop with the Euphonix, but to learn you really have to use it – trying things out is not the same as working under pressure. That's how you find out what's clever and what's not."

Europa's main monitoring system in the re-recording studio is the JBL 3632T. "In the smaller studios we use JBL LSR series powered monitors." says Guldager, "We did a large shootout of smaller mid-sized powered monitors and compared them to the ones in the big room and decided to go with the JBLs – they sound like cinema speakers, which helps a lot during editing." Europa uses Gallery software's virtual VTR, and currently a Black Magic Decklink card for video playback. "We are going to update this soon to an AJA Kona as our current card only supports standard definition video," says Guldager, "We recently bought a Panasonic DW7000 DLP HD video projector. It's perfect for our size of studio, and it's a lot cheaper too!"

Time And Money

I asked him whether the larger budget had made things easier or more difficult when working on *Arn*. "Both!" he replied. "As with almost any project, regardless of how much time you have, you could always have used more." The film was being updated continuously during the sound editing process and although using the Euphonix made things easier in this respect, there were still time pressures. "There are usually a lot of versions around at the same time, so we constantly need to check and make sure all the automation transitions are OK."says Guldager, "Having said that, we did have a little more time to go through the material and also were able to try different things out with sound design." As Bo Persson was on location at all times, the studio was in close contact with all stages of the sound production. "It also helped that one of our dialogue editors was the boom operator on location – which meant that we could easily add any extra useful material to the post production even if it wasn't actually logged as such when the film was being shot."

ADR And Foley

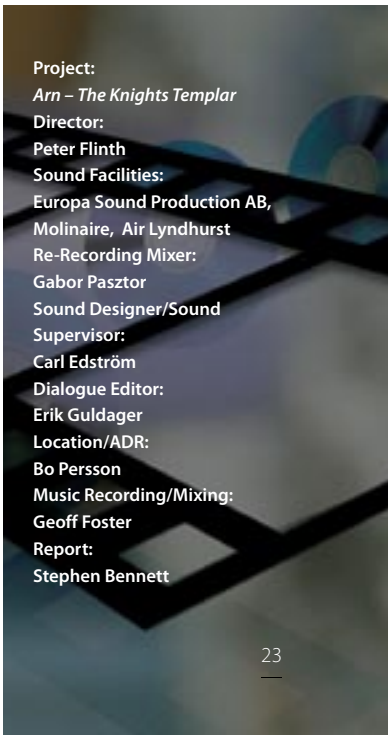
The different locations used in the film posed their own particular problems, "There was quite a lot of Foley on *Arn*, and a lot of ADR too" says Guldager, "I would say about 60% of the dialogue was ADR." The crew found that many of the chosen locations were problematic, as there was often too much wind and too much machinery close by. "If you can hear traffic, no matter how distant, you still can't have that in an 11th Century film!" he explains. The ADR was supervised and recorded by Gabor Pasztor and Bo Persson. "For ADR we used Schoeps CMC series microphones with capsule 4 and also the Sennheiser MKH50 at times," says Persson. Ulf Olausson, Europa's Foley artist, particularly likes to use Large Diaphragm Condenser microphones. "I like to use RØDE NT1000 and NT1A microphones – these are Australian products with a Danish-looking name!" he says. "The Foley mics have to endure a lot of physical hardship so having a mic that doesn't break on first contact with the floor is very important."

The movie contains a number of spoken languages including Swedish, Danish, Norwegian, and Latin. However, the filmmakers decided to use English where Latin would have been more historically accurate. "It's a more commercial language," explains Guldager, "though there's quite a bit of Arabic in there as well." Most of the actors were flown in to Stockholm to perform the ADR, but if that wasn't possible, dialogue was also recorded at Molinare in London. Finnish composer Tuomas Kantelinen's music was recorded and mixed by Geoff Foster at Air Studios in London, and the recorded material was transferred to Sweden by hard drives and digital delivery directly. "We received both full mixes and stems so we could adjust the balance here," says Guldager. "So things like choir and overdubs and so on could be handled easily."

Although he says that he picture editing took longer than was initially planned, the launch date of the film didn't change. "The composer couldn't write to the final cut of the picture so there was quite a lot of editing of the musical score right up until the film's completion," he says.

The Final Cut

A large project such as *Arn* can take over the lives of those who have been working on it, so I asked Guldager how he felt now the movie was in the can and 'appearing soon at a cinema near you'. "I've seen the film, and it's interesting because when you are working within the project, you deal with all the problems and issues in such small detail all of the time. But when it's completed and you know you can't tweak anything you realise, well, it's quite a nice movie! Despite the pressures and the problems and the constant updates I think we delivered an excellent film – and I hope the critics and public will feel the same." AM



Project:
Arn – The Knights Templar
Director:
Peter Flinth
Sound Facilities:
Europa Sound Production AB, Molinaire, Air Lyndhurst
Re-Recording Mixer:
Gabor Pasztor
Sound Designer/Sound Supervisor:
Carl Edström
Dialogue Editor:
Erik Guldager
Location/ADR:
Bo Persson
Music Recording/Mixing:
Geoff Foster
Report:
Stephen Bennett

REAL WORLD POST

FITTING OUT THE BOX ROOM

Top flight post production in a world class music studio, less than two hours from London, and the Dolby Premier spec thrown in for good measure? Oh yes – PAUL MAC reports on the Real World master switch.

No introduction is particularly required for any of Real World, Mike Prestwood Smith, Simon Jones, David Bell, or Matt Dobson. But if you put them together, then the result will certainly be something to shout about. And so it is, with great pleasure, we introduce Real World Post.

This isn't simply a reworking of one of the many rooms in the world famous facility, this is a full-on, pre-mix to Dolby Premier production path with some of the top names in our industry as guides. This is an iconic room that can be either music or post, depending on the client, with no compromise to either. And sunlight is optional.

Some Background

Around two years ago, the Real World Post founders met. Simon Jones and Mike Prestwood Smith (Re-Recording Mixers), Janet Jones (Financial Director), and Branwen Pearce (Post Production Manager) found common ground initially, according to Jones, through the 'Welsh connection'. The idea of setting up a post production facility together was explored a short while later, and for good reason. Smith is now one of the world's foremost re-recording mixers, with high-profile credits too numerous to list here (but mentioning *Casino Royale, Harry Potter, United 93, Cold Mountain,* and *Corpse Bride* should help matters) and for two years, his own Liondubbs Studio in Somerset (West UK). Simon Jones has been running post production businesses for around 17 years, including the successful Soundworks facility in Cardiff Bay, Wales.

The reasoning behind the then notional project of a new post facility in the West of England was sound enough, though the actual implementation evolved beyond anybody's expectations. Smith explained that Liondubbs, while it has been his workhorse studio for two years, also served as a proof of concept: "Every film that I've worked on since starting out, I've done the premixing in that room... People were quite happy to come and travel and mix more cheaply in a room that I wanted to work in... Getting away from the politics of the facilities in London – which studios you could and couldn't work in, and rates and all that stuff. It eliminated all that, which was great.

"I felt that perhaps more of the premixing could be done away from where you final mixed. So, I thought it would be good to go somewhere else, bigger where you could effects premix, and I guess that's when it coincided with meeting with Simon and Janet – and they were looking to build also."

The team started out by looking for their own new premises, and their preference was the Bath area. Building a facility from scratch is a big project, and an expensive one –especially in an area of the UK where real-estate is at a premium, and the protection of heritage is, rightly, paramount. During this search they met with the Real World team – the studio being based in the village of Box, just outside Bath – to discuss the possibility of simply siting a couple of pre-mix rooms in the existing facility, something that was quickly agreed. The ideal of access to a full-spec film mixing room was not in the 'draft', though it was in the back of Smith's mind from the moment he visited: "The big room wasn't in the equation," he explained, "because I thought it was some sacrosanct shrine that couldn't be soiled in any way with anything but music. But as soon as I walked in I said, "Uuh... it's a film mixing room with a bit of glass at the end of it"".

> "'Do you want to mix at Realworld?', is hardly a trick question. The whole facility has a personal, informal, yet very professional ethos..."

According to Smith, the idea of using the Big Room at Real World for film mixing "simmered" during initial meetings with Owen Leech, Real World's Studio Manager, which were mostly to detail the plans for a ▸

THE REVIEWER

PAUL MAC is the Editor of Audio Media magazine.

first pre-mix room. Once the idea took hold with all those involved though, it was simply a matter of getting the okay from Peter Gabriel, who, says Smith, "saw the challenge and thought 'great, that's just the sort of thing I want to get into'."

In The Mode

The problem of moving that idea to reality was significant. Amongst all the challenges to be faced, possibly the most iconic will prove to be the moving mix position. As a music studio, the Big Room in Real World has a very large, wraparound, SSL XL 9098 K that complements the shape of the front wall. It's quite close to the front, leaving a large open space behind it – which is lovely for music, but not so for post. This meant that the room had to operate in two 'modes' – music and post – with absolutely no compromise on either side.

The mix position for post mode had to be much further back, and the tools in mind were a hybrid combination of two D-Control surfaces either side of a Neve DFC Gemini. The solution was to slide the SSL towards the front wall of the Big Room, dropping a projection screen in its place, then bring in the post tools at the back of the room. Of course, this whole process had to be reversible and repeatable so the Big Room at Real World would remain revered for its music studio, while able to 'transform' into a top-class film dubbing room.

The company that came up with the engineering know-how for the 'rolling stock' was Total Fabrications, which is also involved in a lot of large tour rigs – including Peter Gabriel's. Initially though, it was found that the studio floor wasn't quite up to the task, so that was dug up, extra steels were laid, and eventually the SSL was rolling.

As a bonus, Real World now has the option to extend the steels backwards, so the SSL itself could be put into a film position, potentially for film score mixing.

Jon Pigott, Real World technical projects, related the details of relocating a massive console: "For all the mic inputs, line input, inserts, group sends etc, we ran new cables that actually sit underneath the belly of the SSL so none of that needs unplugging... it's a bit like an onboard patch really. So the only things we need to unplug from the SSL are external installations – wall panels, machine room – DLs essentially – then the power and computer need pulling". This does require extra attention to the integrity of all connections whenever the room is converted, especially where DL pins are concerned, but Pigott sounds confident that all will be well.

Real World Post Re-Recording Mixers (L-R) Mike Prestwood Smith and Simon Jones.

The Cavalry

And the list goes on – equally adaptable monitoring, screen, projection, acoustics, wiring, and more were required. All of this was needed to make sure that the post mode would qualify for its Dolby license. But why settle for any old license? With the arrival of White Mark Limited and Exigy, sights were set on the Dolby Premier standard (White Mark and Exigy were hotfoot from completing Europe's first Premier Accredited facility: Savalas, in Film City, Glasgow).

David Bell of White Mark, and Matt Dobson of Exigy have worked together on numerous rooms in and around Soho, as well as other large projects further afield, both nationally and internationally. The strengths of both are neatly summed up by Bell: "What people want is accuracy. That terrible nagging feeling you get when something isn't quite right must be awful to work with. What we try to give people is accuracy and reproduce-ability."

To Bell, the Dolby Premier specifications are both a challenge and an asset. "Designing for Dolby's Premiere license is quite nerve-racking for us because they very strongly measure everything, and it's got to be exactly right," he explains. This is of course necessary, as the idea of a gold standard becomes meaningless if testing is lax, or if policing is ineffective. Speaking from experience, Bell is assured that Dolby is going about this the right way, and is also complimentary about the working relationship he has built with the company – even though the specs still keep him on his toes: "Premier is absolutely solid. It is extremely challenging when we start the design, which is a good thing. If it wasn't exacting it would be 'just another one'".

To meet Premier spec, the room in question must adhere to specified room dimension ratios, response, isolation, reverb times, fader numbers, picture resolution, viewing angles, screen brightness, and more. As Matt Dobson puts it: "The Premier spec is all-encompassing in terms of the equipment, the room size, shape, finishes, and the acoustic performance."

So, there's a little bit of pressure to start with, but it does mount up, as Bell explains: "There's that, and the fact that it's the world's most famous music studio, and has to retain the ability to be the world's most famous music studio – whilst meeting the Dolby requirements for a post production studio – and meet the requirements of Mike Prestwood Smith.

"Correctly, both Mike and the musicians who use the studio are very demanding in what they want. The space in both configurations must be able to give them this performance and it must be engineered to be transferable between the two states without compromising either, which has proved to be a significant challenge."

For example, a high level of low frequency absorption is required by the Dolby spec, and that is measured at six frequencies to make sure

View from the back of the Real World's 'Big Room' in post mode.

that it's even. In the case of Real World, the necessary treatment has to be removable, so big air spaces and permanent materials were out. White Mark made use of materials such as heavy curtaining to give that control, and the theory proved itself, with initial tests showing only a small 'under-cut' of reverb time at the top end (specifically, 0.02 seconds outside at 1kHz and 2kHz), which was easily sorted. Bell expresses it succinctly: "We were dead chuffed."

In the current phase the other, not insignificant task, for White Mark was to build a smaller room, fit for Mike Prestwood Smith's daily work. This, however, was more familiar territory to White Mark. Previously a reception area in the 'Silo Tower' of the main building, this was to be more of a blank canvas for White Mark, without the complications of multi-purpose use. Thus, it's a more standard isolation shell, taking full advantage of existing thick stone walls. Monitoring in here is Smith's own hybrid system with components from Dynaudio, Blue Sky, and Genelec. According to Bell, this room measures 'completely flat'.

Moving Monitors

On the monitoring side, the system in the Big Room had to be completely re-thought, and again had to be adaptable to both post mode and music mode. Luckily, like David Bell, Matt Dobson has had a long-standing relationship with Real World as he was involved in its birth and has been a regular visitor since.

Just another stage in the continuing evolution of Real World.

KIT LIST

Anybody working in the main room at Real World, in post mode, will not be short of gear. The hybrid mix position is made up of two D-Controls sitting either side of an AMS-Neve DFC Gemini 6XSP. The effects system is a Pro Tools HD5 with three other HD3 systems in place (all equipped with 192s and SSL MADI convertors, plus the Real World system, which will be used as a stem recorder). An SSL C300 console will also be made available to those who require it. The room has been cabled up for ten editor station positions (seven simultaneous systems is the current limit), each with headphone mixers and control looms into the main system, and there are multiple screens across the main mix positions for monitoring any three systems at the same time.

The idea is that everything is bussed into the AMS-Neve, though it's not 'tied' to any workstations so, according to Smith: "it means you can just get on and mix without worrying about someone editing... And having an independent mixing desk, I think, is vital in film post – having something that's away from the workstations. It doesn't matter what happens with the other gear, there's always something that you can listen to." The other advantage is that the studio isn't tied to just Pro Tools – the DFC Gemini is where everything meets.

Incorporated into the centre is a Soundmaster machine control system with eight 9-pin machine interfaces, so every rate can be accommodated, the system can be run from either D-Control, and just as usefully, the mix stations can be taken offline for 'local' mixing.

For picture, the play-out is taken care of by a Merging vCube, capable of playing anything up to full HD 2K, supplying the Panasonic 2K projector – which is a permanent feature of the facility, and included in the rates.

North America

USA, CANADA: Synthax Inc. , www.synthax.com

South America

Argentina, Brazil, Colombia, Ecuador, Paraguay, Uruguay, Venezuela: Show Control , www.showcontrol.com.ar
CHILE: Videomedia LTDA. , www.mediaycom.cl

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Mike Prestwood Smtih's pre-mix room at Real World Post.

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In this case, the responsibility for upgrading the monitoring at one of the world's most iconic studios was on his shoulders, though it must be said that is by no means new territory for Dobson. Exigy specialises in big rooms and custom installations. It does have a range of standard products that go into more 'standard' post rooms, but even then says Dobson "most rooms have some element of customisation... Basically we look at the room, what it needs, and come up with a solution."

According to Dobson, the eventual Real World solution evolved from something much more complicated: "Initially it looked like it was going to be very complicated and a complete nightmare – having to build a front wall for the film system as a baffle and having to take that apart. Eventually we worked it down to a much simpler system that would do both functions with a relatively easy change over.

"Because of the size of the room it needed to be a four-way if it was going to be a direct radiating system – which is always my favourite!

"And then it came down to 'how much room have we got to fit these boxes in?' That was very,

> "What people want is accuracy. That terrible nagging feeling you get when something isn't quite right must be awful to work with. What we try to give people is accuracy and reproduce-ability."

very defined because of the shape of the room, the way it's built, where the SSL ends up relative to the screen, and being able to get the speakers past the SSL when it moves forward.

"Every box in there is custom built for the room."

When the Big Room is in film mode, the left centre and right LF uses one 2 x15" cabinet in each position, along with three LFE boxes – each one a 2 x 15" cabinet. In music mode, the centre channel goes, and the LF and LFE cabinets for the left and right positions effectively share the responsibility

Here you can see the tracks being laid for the newly mobile SSL 9K.

of the LF (making 4 x 15"). Mid/High satellites sit on top of those. Obviously, the voicing for each mode is completely different, and that is facilitated by the Exigy combined amplifier and DSP unit (equipped with four programs and multi-amp linking for that single switch advantage), which was developed with Linear Research.

One eye-catching aspect of the surround monitoring is the duo of 'eyeball' mounted tweeters in each cabinet. "That was something that I did first at Grand Central where we had to have the boxes square to the walls on the side and at the back, which wasn't ideal in terms of where the tweeter energy was directed. So we decided to do an eyeball-type tweeter on those boxes and it worked really well. So when it came to real World where the speakers had to be on the columns because that was the only place to put them, we wanted the flexibility to be able to redirect the tweeter energy.

"What you're looking for with film-type surround is a diffuse field where you're not actually getting direct energy at the mix position. So you tend to point the tweeters away from the mix point and look for an even field when you walk around the room."

In each surround cabinet, one tweeter is pointed towards (but not directly at) the mix position, and the other is pointed at existing diffusers.

Switch And Slide

Now with all this in place, Owen Leech and his team at Real World have had the chance to put the plan into action – from post mode to music mode, or vice versa, in a day. Leech summarises the main jobs (from post to music mode) as pulling the screen up, moving the SSL, replacing the outboard racks under it, moving curtains and black-out drapes, pulling up matting from the floor, raising the projector up to its storage position above the back booth door, re-configuring the monitors, and removing the post console (one D-Control goes into Smith's room): "With the exception of the stage and the plinths and the desk, which have to leave the room, everything else just stays in the room," Leech explained. "We've found a way to deal with the monitors. The left and right swivel around for stereo… They lift off the plinths, because they're too high for music on the plinths, and just sit on the floor. Then the middle one splits up and goes into the wall – there's a space in the wall for storage... It's all very neat actually."

In addition to the current pre-mix room and the post mode of the Big Room, the second and third floors are already earmarked for Real World Post. The idea is that the second floor will be an office and chill-out area, while the third floor will be an

SCRUBBED UP

One of the several suppliers of the Realworld Post development was Scrub, the London-based division of HHB set up specifically to support the UK post production market, focusing on the supply and support of Digidesign systems.

One major purchase was the Digidesign D-Control ES, and another was the HD 2K-capable Merging VCube.

Director of Sales, Ben Nemes acknowledges the experience and expertise already on the project: "Simon and Mike have been doing it for years," he explained. "and both are masters of their craft. So they didn't need a lot of encouragement from the likes of us to be innovative and use the technology to its maximum potential – they knew the possibilities and we helped make it happen."

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additional pre-mix room; and there's certainly room on the site to expand even further as the need arises. Other possibilities that have been pondered are a Foley studio and a space for visuals – the grading and visual effects team. In fact, discussions are already in progress on provision of the latter. For certain, there's a lot of space available in and around the Real World facilities –enough for cutting rooms, additional client office space, and so on.

"This is more of a creative place; its not so much of a by-the-clock type job. People come here, they're here all the time, they stay here, they get immersed in what they're doing..."

Reasons To Be There

More immediately though, as an active commercial venture, Real World Post certainly has a very different look, feel, and location to offer prospective clients. For one thing, there's Real World itself – 'Do you want to mix at Real World?', is hardly a trick question. The whole facility has a personal, informal, yet very professional ethos; and the surrounding countryside, and the City of Bath are rightly up at the top in the list of places you absolutely have to see and experience, whether you're from the UK or not.

It's also not difficult to make the leap from rural England to a certain ranch near San Francisco. Both Real World and Skywalker share the same 'community of creative professionals, away from the madding crowd' type feel – even down to the communal restaurant. The comparison, though, comes down to something much simpler, according to Smith, it's "the place you come to mix the best sound... full stop."

Smith also makes the more earthy case for Real World Post: "It's significantly cheaper to mix here. And that is the bottom line for a lot of people. It means that for someone like myself, I'm much more able to mix the lower to medium budget type shows, which I've been effectively unable to do for the last couple of years, because of high London facility dry hire rates. I can do those shows here now, and it means that those shows have got access to really good people and really good equipment that they wouldn't have otherwise.

"I see it very much as a place for British and European firms particularly, to come and get really excellent quality – and with good people.

"The rates in London and the rents in London are so expensive that there is very much a feeling that you're just trying to get it done in the time you've got. This is more of a creative place; its not

MUSIC LIVES

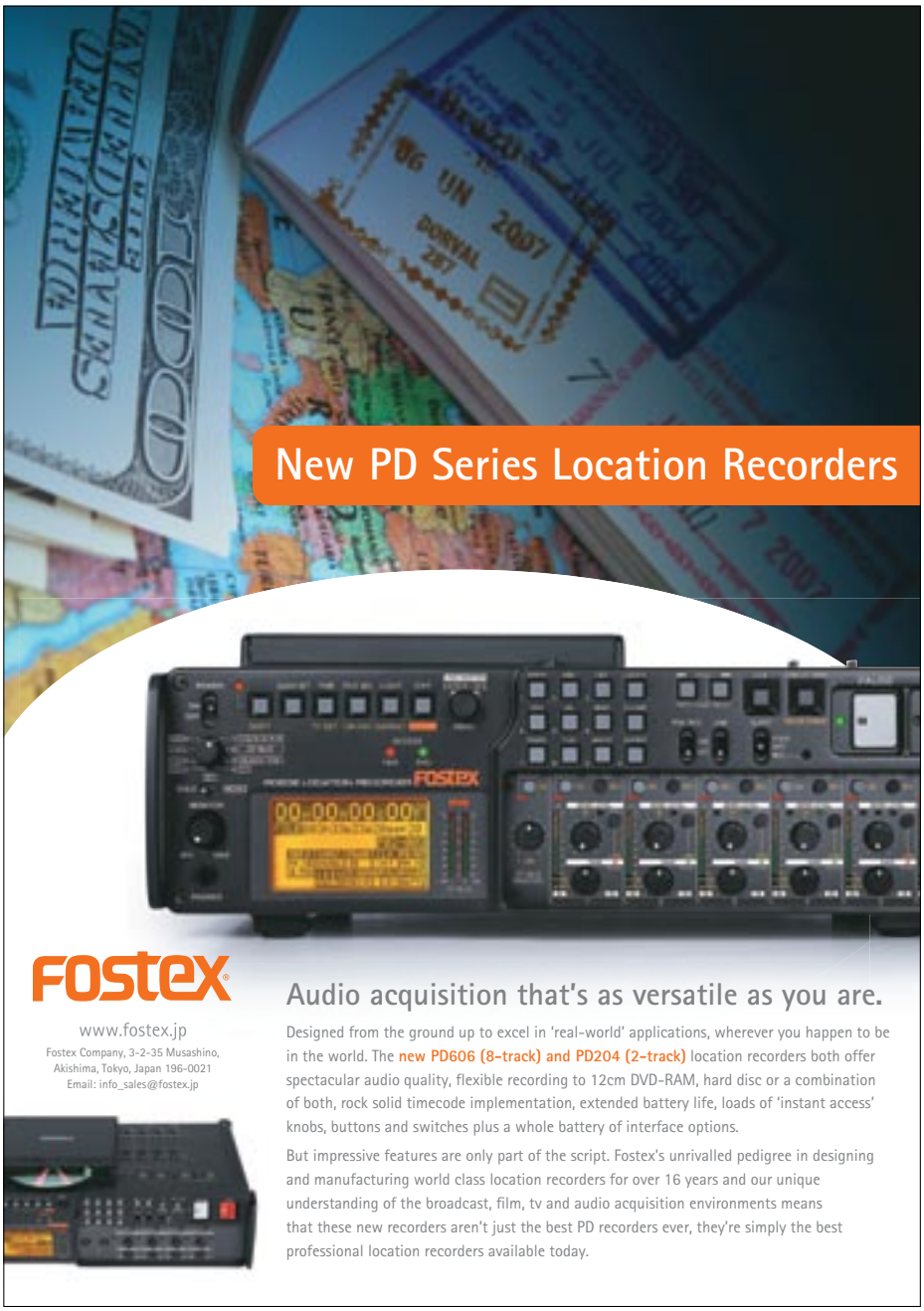
Owen Leech is Real World's Studio Manager, and as such has had the job of co-ordinating much of the comings and goings around the recent studio developments. Paramount in his priorities is ensuring that neither the post nor the music sides of the business are compromised – and to convey the message that as far as music is concerned, it's still business as usual at Real World.

One thing that will be interesting is the difference in booking practice between post and music. "I think the interesting thing is that Post is 'I think we need it in seven months time'," notes Leech – as opposed to very much shorter lead times on music bookings. He continues: "Though, very much like the music industry, I think it floats around a bit before it falls into the hole. Already it's interesting for us to see how far ahead they look for potential projects – they're known probably two years before, so you can have at least a year's advanced warning – whereas, as we all know with music, we don't have that luxury."

Over and above the permanent Realworld Post rooms, the additional bookings it makes for the main room will be welcome additional 'up-time' for that space. "For us it's about broadening the client base," says Leech, "We all know that the music industry is finding it harder and harder to pay for rooms like that. I don't think it's ever that people don't want to work in it, but there are budgets..."

However, Real World has always enjoyed a relatively busy music schedule and, according to Leech, 2007 was a good year, and bookings into this year maintain that trend. In terms of a ratio between projected post and music bookings, the evidence so far points to around a 60/40 (post/music) split – and 60 percent is a healthy boost to any room. While that split may even out, it's not difficult to see that the new development is a boon to the facility as a whole.

The next project on the cards is extending the track for the SSL so it can be pushed back and used in the film position for score mixes – an additional benefit of the post-orientated update.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Room With A View –The famous natural light of the Big Room in music mode.

so much of a by-the-clock type job. People come here, they're here all the time, they stay here, they get immersed in what they're doing, and it's not just a 'nine 'til six and every minute counts', because they're not paying so much money for it.

"I think the combination of where it is, and the fact that it's cheaper to be here, means that it's an easier place to work, and a more creative place to be.

Fully Booked

So far, Real World Post has already got credit for The Golden Compass as Mike Prestwood Smith used his new permanent room for dialogues on that project, and being mixed as this story went to press was Anthony Mighella's *Number One Ladies Detective Agency*. There has also been a lot of interest from many films currently in production, such as Bond 22, *Hellboy 2*, *Brideshead Revisited,* Paul Greengrass's next film *Emerald City*, and a TV Project *Bookaboo* – All are possible projects for what looks to be a busy first year. So much so that Real World Post has already employed the highly regarded Phil Jenkins as technical supervisor for post projects

It's not difficult to see the attraction of mixing a film at Real World. For one thing, what about the idea of mixing your picture with a couple of the blackouts rolled back so you've got a view over the millpond and off into the countryside – but still with the knowledge that your production needs are the priority? That has to be a unique experience, and one that would never have been possible without the original vision and continuing commitment of Peter Gabriel to a creative audio and media community in the English West country.

It's probably true, as Owen Leech pointed out, that many music people want to have a go at post, and many post people want to have a go at music. Well now you can do either, and soak in the vibes of the other, all in the same room. It remains to be seen whether there will be user presets available that fall somewhere between music and post modes, but I'm guessing the race is already on to be the first producer to be able to use the words 'my Real World configuration'.

In any case, with Dolby Premier accreditation pending, great people, ample kit, and an environment like no other, who wouldn't want to?

INFORMATION

Real World Post
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Real World Studios
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PREVIEW

RUPERT NEVE DESIGNS 5088

DISCRETE ANALOGUE MIXER

Rupert Neve Designs' eagerly-anticipated 5088 Fully Discrete Analogue Mixer has been a little while coming. Director of Sales Josh Thomas takes JONATHAN MILLER on a magical audio tour.

Rupert Neve Design's 5088 Fully Discrete Analogue Mixer has had press and punters drooling in perfect harmony since first being publicly announced by Rupert Neve himself at the 121st AES Convention back in October 2006. While the modular mixing console itself could clearly be forgiven for failing to journey to San Francisco with its creator – effectively existing at the time as individual components on a Texan workbench – the Brit-born designer nevertheless captivated his audience with only a large laminated poster and some schematic drawings.

Noticeably absent was any mention of EQ. Why? Well, as Neve exclusively explained to *Audio Media* at the time, "This was really in the back of my mind for the last 35 years, because that's where we started. When we were building the first [transistor-based] mixing console for Phillips, we'd already built some EQ modules for them before that, and they said, 'Can't we put them into the console?', 'Yes, we can,' I said, and that kind of set the pattern forever. Actually, that's got a lot of disadvantages, so by keeping this new console as a line-level device the result is sonically outstanding. It's like the best tube console you've ever heard, but with none of the problems with reliability, overheating, and all the rest of it." According to Rupert Neve Designs' Director of Sales, Josh Thomas, "We had people that wanted to put down deposits at the show, and we were, like, 'Give us a little time here.'"

Arrival Time

Amazingly, a little over a year later, it's here in the flesh – quarter-inch steel construction, no less. Serial Number 1 – comprising a 5088 Master frame (itself a 16-channel, eight-buss design); a Penthouse frame (into which can be slotted any combination of the company's well-received Portico Series modules – or, indeed, suitably-sized outboard modules from third-party manufacturers); plus a VU Bridge (featuring finely-calibrated and extremely precise meters for all input and group channels) – now permanently resides in UK and Ireland distributor Sonic Distribution's West London demonstration studio, the purchase of which was publicised on May 22, 2007. It's there that Josh Thomas recently took me on a guided tour of the beast itself.

Thomas met Neve during his tenure as the North American Sales Manager for AMEK, working with the great man on that company's Pure Path range of signal processing devices, inspired by the success of its Neve-designed flagship 9098i in-line master recording console. Harman International essentially shelved the AMEK brand when a mutually beneficial 15-year Consultancy Agreement between AMEK and Neve came to an end in July 2004. Thomas recalls: "Rupert and I had been talking for years, and thought, 'So what are we going to do next?'. The 5088 was a concept that we'd been kicking around back and forth for about 12 years. As the work paradigm ▸

THE REVIEWER

JONATHAN MILLER is the News Editor of *Audio Media* magazine, and author *of Stripped: Depeche Mode*.

had shifted, people's need for high-quality audio was still there, but in a smaller format..."

Cue Rupert Neve Designs: "As soon as we started with the Portico 5012 back in May of 2005, launched the website, and said, 'Hey, we're open for business; this is what we're doing,' we must have had a half-dozen people in that first week saying, 'Okay, so when are you going to do a desk?' Then, after the success of the initial launch of the Portico range, we said, 'Okay, let's go for it!'

"We wanted to make the highest quality heart of a mixing system that we could possibly do. There's been a great deal of demand for discrete Class A transformer IO, and so Rupert created a brand new op amp that's used throughout the console that runs on ±45V [supply] rails. There are transformers on every input and output, and it has 10dB more dynamic range and more headroom than any mixer he's done before. This allows you to plug in outboard digital converters that are putting out +18V and the console will not fall over."

Grand Tour

Rupert Neve Designs literature describes the 5088 as an expandable 16-channel line mixer that provides eight group busses, eight auxiliary sends, four stereo effects returns, and a stereo output buss, the basic functionality of which provides a solid foundation on which purchasers can build an analogue console to suit their own particular requirements – adding, for example, microphone pre-amps, EQ, and dynamics processing from the aforementioned Portico Series, or more input channels, perhaps. You pays your money and you makes your choice, in other words.

Sitting in front of Sonic Distribution's compact 5088 Master frame-width console configuration, Thomas begins by drawing attention to its singular 25-position Penthouse frame – up to two of which may be adjoined to a 5088 (regardless of the number of input channels), loaded with a self-selected combination of Portico units that are electronically and internally identical to their standalone counterparts, but with a new faceplate and machined aluminium knobs to match the console's architecture.

Such inherent flexibility is key to this console's concept – superficially similar to that of tried-and-tested, mix-and-match-style 'vintage' modular synthesis technology, also enjoying something of a resurgence of late. "Absolutely," agrees Thomas, before adding: "It's the way people work now. With the 9098i I was selling a $650,000, 72-input console, and people were still using six channels of API, eight channels of vintage Neve, some Telefunken V76 pre-amps, or whatever. That's why we built the 5088 up like this, without the redundancy of mic pre, EQ, and dynamics on every channel that the customer is paying for and might not need. If that's what they want, we can build that for them – not a problem, but most engineers and producers have already got their arsenal of outboard gear that they're going to use. But you can just start out with this small frame size and still have a phenomenal piece of kit."

> "You can look at how cleanly the [circuit] boards are laid out; the op amps are on separate daughter boards, so it's going to be serviceable for decades. There's no reason why the 5088 shouldn't have the kind of caché that vintage Neve consoles have now in 20 or 30 years from now."

Not that 5088 purchasers are restricted to a single 16-channel bucket. "You can put another one on the other side of the centre section, so you get 32 channels, and then on and on until you run out of real estate or money – or both," jests Thomas. These, of course, can be accompanied by matching Penthouse, Upper Penthouse, and VU Bridge expansions.

Running along the bottom of a 5088 Master frame's 16-channel bucket and adjacent eight group busses are equally exemplary 100mm Penny & Giles faders. Thomas: "There are two automation systems that you can use with this console: Flying Faders II -–the Martin Sound system, or ShadowMix, who have also gone to a P&G fader now... audio actually goes through the ▸

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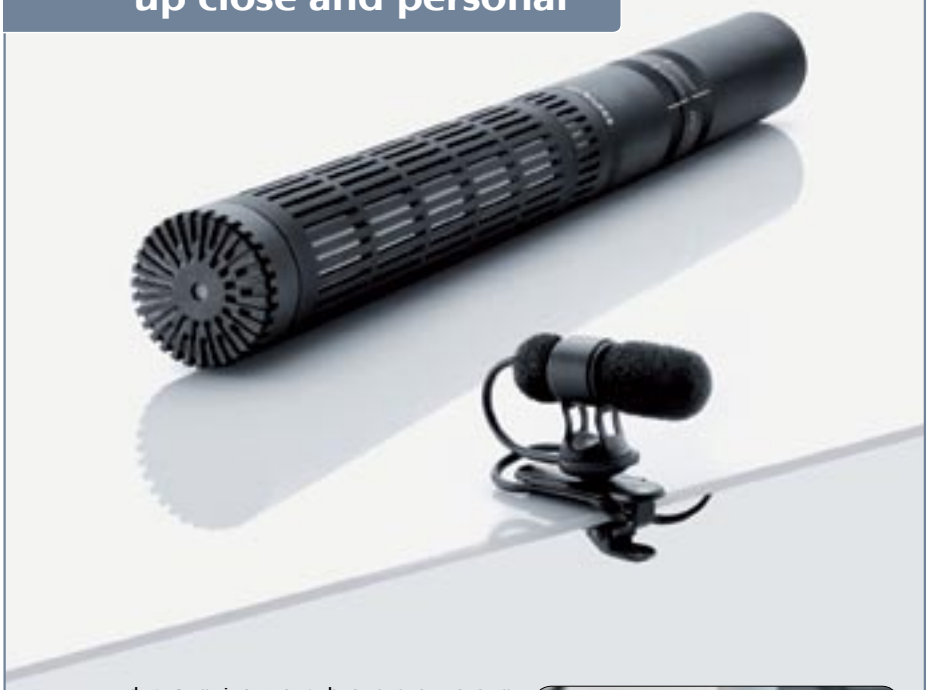

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DPA MICROPHONES

track on the fader; it's not a VCA-based system. It'll read and write back to Pro Tools, Logic – any of the DAWs."

Channel Stripped

Those 16-channel buckets are fully filled as standard with 541 series channel strips. Thomas takes it from the top: "Essentially, you have a selection of three line inputs per module, which we've named Tape, Line, and Buss. Typically, you can come in the Buss input from the output of the [Penthouse-housed] Porticos; the Line input could be a secondary mic pre that you have out in the studio; and Tape is generally the return of a two-inch 24-track or whatever your DAW flavour of choice is."

Moving on down, "±10dB trim, phase reverse on whatever input is selected, eight groups; eight auxiliaries (the first six of which can be set up as stereo, a level pan arrangement, or dual mono, with send follow pan also available on the first two auxes - a quick way to set up headphone mixes). We also have the ability here to monitor Aux 1/2, so you can hear exactly what your primary cue mix is; you can also send the stereo buss to Aux 1/2, so someone can hear exactly what you're working on in the control room. You also have the ability to send Aux 5/6 to groups [Aux To Groups], so instead of feeding the Aux 5/6 master it now feeds whatever the group selection is, so you can create up to 16 auxes or mixes as well."

Again, modular flexibility is the name of the game here, as is also the case with the eight 561 series group channels: each feature four pairs of effects returns and aux master controls, direct outs, and transformer-coupled inserts for the eight mix groups. Their Group Master section can control up to four stereo stem mixes while tying together an array of channel strips.

Finally, the well-specified monitor master section – boasting the (possibly) deal-breaking Rupert Neve 'signature' and all-important 5088 Fully Analogue Mixer legend – has six source selections, three transformer-coupled speaker outputs, talkback, oscillator controls, two VU meters, stereo inserts, stereo level, and room master level. Like the 541 series channel and 561 series group modules, anodised aluminium knobs provide the solid feel and response necessary for making precise adjustments, and are perfectly in keeping with the console's bullet-proof build quality. As Thomas proudly points out, "You can look at how cleanly the [circuit] boards are laid out; the op amps are on separate daughter boards, so it's going to be serviceable for decades. There's no reason why the 5088 shouldn't have the kind of caché that vintage Neve consoles have now in 20 or 30 years from now."

By then, the 5088 Fully Discrete Analogue Mixer could well prove to be the product for which Rupert Neve is ultimately best remembered. Until then, Thomas pays tribute to the living legend that he so obviously takes pride in working with on a daily basis: "Rupert is 'only' 81, and he's not slowing down. He doesn't know how to take vacations; he goes to the beach and starts drawing circuit block diagrams in the sand – drives Evelyn crazy, but it's not only what he does, it's who he is. He absolutely loves listening to music, and we just can't wait for important pieces of music to be done on our equipment."

The dynamic duo spearheading Rupert Neve Designs' close-knit operation shouldn't have to wait long, secure in the knowledge that any music passing through their discrete analogue circuitry will sound as good as it gets. Right now, the company's order book is brimming; it's currently shipping more than one console per week, with further orders stacking up in a holding pattern that would give air traffic controllers working the Texan regional airports around Wimberley something to sing and dance about.

INFORMATION

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Ⓐ Sonic Distribution Ltd., Unit 23, Westbury Close, Townsend Industrial Estate, Houghton Regis, Dunstable, Bedfordshire LU5 5BL, UK
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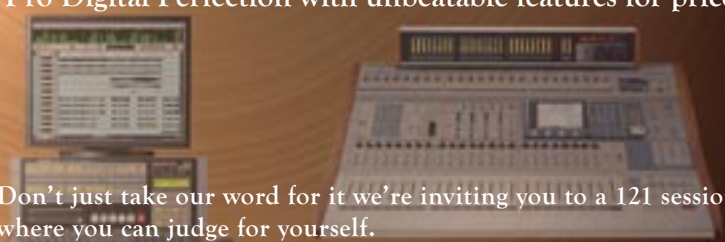

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KRK VXT SERIES

NEARFIELD MONITORS

With a sleek and sexy design, DAVID HELPLING decided to try out the new KRK VXT Series Monitors to find out if beauty went deeper than the surface

The new KRK VXT Series near field monitors are turning heads and gathering interest with their bold and stunning physical design. Anyone familiar with KRK's high-end Exposé E8B monitor will notice that the VXTs draw upon this design quite heavily. At first glance one could even accidentally mistake the largest model (VXT8) for an Exposé monitor. That said, the VXT monitors are sexy, sleek, and something of a work of art. Consisting of three models – the VXT8, VXT6, and VXT4, this visually striking enclosure design is said to be equally functional – providing low resonance, improved structural integrity and extended low-end.

The VXT cabinet, with its radically designed curved front panel and flush surface is manufactured ABS structural foam. From what I can see there is not a single piece of wood used in these monitors, which had me a tad concerned. Most of the best loudspeaker designs and their origins have involved wood boxes and paper cones. Can a speaker consisting entirely of ABS and Kevlar sound musical and organic? It's been done before but not at this price point. According to KRK, this design has clear advantages: "The lack of internal parallel walls prevent internal nodes, the excellent damping characteristics eliminate colouration from cabinet resonance, and increased internal volume is achieved due to wall materials' strength."

What this means to me is more bass from a smaller box. The most obvious benefit from a sleek, curved face is excellent imaging characteristics and a wider "sweet spot" – there are no discontinuous elements to create diffraction. These speakers also are front-ported, but not with the giant circular hole you may associate with front porting. KRK employs the slotted variety, which is said to reduce port turbulence and prevent wall coupling (which can technically occur in rear ported slots). This allows extended low end frequency response without increasing the cabinet size. Once again, what this means to me is more bass from a smaller box – so perhaps the VXT monitors should exude a low end more typical of a midfield monitor?

Enough about the enclosure – what about the drivers? All three VXT models are bi-amplified and loaded with new KRK proprietary woofers and tweeters. To know that these speakers are "dialled in" to match the cabinet design shows that KRK has really put great thought and care into this new line. KRK states that this provides improved top end frequency response, increased articulation, better imaging, faster attack times and less distortion. I'm getting excited now, these should sound amazing! So we have newly designed Woven Kevlar woofers (with a stiffer, lighter woofer cone for extended low end) and a 1" silk dome tweeter comprised of true silk (VXT 6 and VXT 8 only) in a new optimised wave guide design that should provide us with some excellent imaging.

Reactions

Right out of the box these monitors are completely gorgeous. Though they're made of plastic, they are solid, heavy, and have a high-quality feel to them. As I slipped my hand under one to lift it out of the box I noticed a thin layer of foam on the bottom. This acts as a mild decoupler from the surface it is placed on, and provides a non-slip base that will not scratch your desk or over-bridge. Also on the bottom are four recessed threaded holes, making the VXT series Omni Mount compatible with no modifications... pretty fancy stuff. On the rear we have the usual suspects: XLR and 1/4" TRS balanced inputs, power connector, power switch, level adjust, and high and low frequency adjust switches (on the VXT 6 and VXT 8 only). Another fancy addition (and I think a first on a monitor speaker) are tamper-resistant switch covers – no worries about reaching around the back and inadvertently hitting a switch. There is an extra row of switches (also sporting a tamper cover) that add Ground Lift, Auto Mute, and Clip Indicator/Limiter control.

A hidden advanced feature is the new fast transient, time averaging, rail tracking limiter. It still protects your speakers, but lets more low end come through than many other monitor limiters. The aforementioned Clip Indicator/Limiter switch acts as a choice between limiting or a limiter defeat that engages the front panel clip indicator (to warn that a nuclear meltdown of the speaker is potentially near). Also note that the ability to turn off the limiter is a treat ▸

THE REVIEWER

DAVID HELPLING is a full-time composer/producer with over ten years experience in music for picture. He runs DHM Music Design in San Diego, California, producing music for film, TV, corporate, interactive, and web clients. David has two ambient/cinematic albums released on the Spotted Peccary label, with a third now in production, and has several independent film projects on deck. Clients include DELL Computers, Hewlett Packard, Boeing, Lexus, Microsoft Game Studios and Qualcomm.

that I have never seen on a near-field monitor.

The front panel KRK logo is rear-illuminated when the monitor is turned on and not muted. For some users the lighted logo will be cool, for others it may become completely annoying. I myself am an old school KRK fan and don't mind flying the flag. The auto-mute feature is also very cool – when engaged, your monitors will mute after about 20 minutes of no signal input and then will turn back on when an input signal is detected.

The Sound

Two of my most experienced mix engineer buddies (Jon and André) and I did some mixes and extended listening for about a week here in my studio. The first monitors we listened to were the 8-inch models (VXT 8). Weighing in at around 40 pounds each, these monitors are very heavy and large in size – a bit intimidating at first. After letting them warm up for a bit we listened to a couple of tracks currently in the mix stage and several classics that we were familiar with. My first qualm was the input level – even with the input trim set to it's highest (+6), we were still a good 3dB lower than my other monitors (set at the default zero level). After adjusting my other monitors down to the KRK level we could do some accurate listening back and forth. Right off the bat I was very impressed with the concise and visual quality of the stereo image – panning and placement was very clear and wide. This quality was also the first thing commented on by André and a triumph of the curved and organic design and wave-guide shape. The centre channel was almost holographic and very clear – almost like the vocalist was sitting right in front of you. The design of the enclosures truly deliver in the tall and wide sweet spot department as well. Not enough to jump around in but a very comfortable listening space – especially at the relatively low price of the VXT series.

The low end was very tight and full, but not quite as deep and thunderous as we had expected. The LF adjust was at the highest setting (default) and my room isn't too bad in the low end department, but we weren't quite getting the subsonic extension we had anticipated based on the extreme design of the monitors in the bass department. No complaining though, the lows were very well represented and present. The overall mid tone response was interesting and a tad elusive at first – it just didn't sound as balanced as we were used to. On some material there seemed to be an exaggerated presence of lower midrange response... somewhere around 180Hz is my guess. On other material the lower vocal range seemed a bit pushed back (slightly scooped) – not a terribly bad thing by any means but some learning of the response curve might be in order before mixing on the VXT monitors alone. The top end was very precise and detailed, never harsh or brittle but not exactly "airy" or "open" sounding. Somehow there was a mild "digital" sound to everything – very hard to explain... Not as organic or acoustic as we were used to, but not misrepresented either.

After more listening it became clear that there was a mild boost somewhere in the 3-5kHz range – not a typical curve for a reference monitor... perhaps a tone similar to older JBL mid-field monitors or the Yamaha NS10M. Needless to say, we were hearing things we hadn't exactly heard before and in some cases missed flaws were magnified – once again not exactly a bad thing. The VXT 8 seemed to like louder playback volumes and "came alive" in the lower register in places. Longer listening tended to fatigue the ear a bit sooner than some other monitors – possibly due to the upper mid range response. Having the 'present' low mid, a slightly scooped vocal range and an exaggerated upper mid presence made the entire balance of the spectrum elusive to describe in one sentence. These giant and gorgeous monitors just need some getting used to in my opinion.

The mid-sized VXT 6 monitors were more typical in stature to most nearfield designs and will be undoubtedly the most popular given their more attractive price and manageable footprint. The sound here was similar to the VXT 8. These monitors yielded quite a decent amount of low end for their size and had plenty of power – enough to fill a large studio. Here again an amazing stereo image and strong centre dimensionality. The top end was not quite as detailed as the VXT 8 but the mid range curve was a bit more balanced. We still had the feeling that there was an exaggerated upper mid range that was not quite what we were used to. The HF adjust allows for a shelving of +/- 1dB at 1kHz. We tried this to see what it would do for the top end but the curve starting as low as 1kHz had a bit too much effect on the upper mid tones to be used for that purpose. The slightly inorganic overall sound was somehow still present, although hard to exactly explain. Perhaps my room and the VXT design are slightly mis-matched? Maybe these monitors require a much longer break in period?

All tiny issues aside, after getting used to this type of mid tone representation, some great mixes can be achieved.

The very cute and precious VXT4 monitors are really in a different class but well worth covering here. Lacking the pure silk tweeter and LF and HF adjustment switches of its larger siblings is the only difference other than the small size. Just holding one in my hand felt like a VXT 8 was sent through the incredible shrinking machine. Armed with only a 4inch Kevlar woofer, this little guy puts out a mountain of sound – a testament to the ABS Foam enclosure and new driver design. Although the VXT 4 is far removed in size from the others tested, the sound was not all that different – great stereo imaging and an overall concise detail. We weren't expecting to get an amazing amount of bass from these little guys, but they weren't shy by any means – kick drums and other punchy low-end instruments were definitely there. Whether for a small composing station, personal computer, or a video editing bay, the VXT 4 is an amazing solution where a big sound from a small space (and the presence of a very cool looking set of speakers) is desired.

Conclusion

I love the design, features, and look of the new VXT Series, and the offering of three different sized models makes for an easy integration into any mixing situation. The mid-tone representation and overall balance may be just what some engineers are looking for, but will not work for everyone. I do like the monitors, and each one has its own personality – I was hoping they would have inherited a bit more of the Exposé sound, but then that would be just too good to be true. What they have inherited is KRK's constant drive for innovation, and the beautiful, organic shape of their big brothers. This level of engineering and these high-end features at this price range are unheard of, and in that respect, KRK is certainly raising the bar.

Side Note

Also just announced is the release of rugged protection grilles for the VXT4 and VXT6. These attractive, yet rugged metal grilles are designed to protect the woofers and tweeters while preserving the monitors sonic performance. This is achieved through the use of rubber gaskets and mounting spacers which eliminate vibration transfers. The new VXT Protection Grilles will be in stores in November and have the following list prices (grilles are sold in pairs): VXT6: $64.99, VXT4: $39.99.

INFORMATION

£ VXT4 - GB£239.00/speaker
VXT6 - GB£339.00/speaker
VXT8 - GB£459.00/speaker
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Ⓣ +1 954-316-1580 / +1 954-316-1590
ⓦ www.krksys.com

Ⓐ Focusrite, 19 Lincoln Road, Cressex Business Park, High Wycombe, Bucks HP12 3FX, UK
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MAGIX SEQUOIA 10.0

DAW SOFTWARE

Magix in the air, as ALISTAIR McGHEE plugs into Sequoia to find all his wishes answered.

They say confession is good for the soul, I hope they're right. This started out as a review of Sequoia 9, and in a fair honest test of speed, the software developers managed to get a whole new version out before I managed to complete the review. My only excuse is – they are quick those Sequoia boys, and of course girls.

So here we are at version 10, let's just hope I can get this out before version 12 hits the shelves. Cutting to the chase, Sequoia is the top dog in a range of software that starts with the cheap as chips Magix Music Studio offerings, works its way through the very capable Samplitude variations until arriving at the heady heights of Sequoia. In terms of pedigree Sequoia has more in common with DSP hardware based solutions like ProTools and Sonic Studio than it does with with most host based DAWs, many of which started life as MIDI sequencers with audio bolted on afterwards. That's not to say Sequioa is barren of MIDI, it's just that if your main interest in life is audio, the cart is firmly behind the horse. Mind you in version 10 it's a bloody big cart.

What's New?

Headline news in 10 includes better cleaning and restoration, better time stretching and resampling, more plug ins, video recording, better routing management, more and better automation, and some tidy new graphics – oh, and a shed load of MIDI stuff. And if you're wondering what you missed in version 9, here goes - Hybrid Audio Engine, Economy Spur (High Latency Processing), Multi-CPU Support,Track Editor,Track FX Presets,Score Editor,New MIDI-Tools in Mouse-Mode Menu, new MIDI and VST-Features, new Magix Plugins: am-phibia, VariVerb Pro, de-esser, VSTi-Manager, Sample Tank 2.1 LE, Spectral Cleaning,Auto Jam Session, Video Engine, new Surround Features: Multichannel VST, Surround-Dehisser, Surround Vocoder, AUX Automation, Enhanced FX Support, Magix AudioID. And if you think I copied that out of the manual, you're dead right.

One of the main features that divides the men from the boys in DAW applications is automation. Computers are good at that sort of thing and it's surprising it's taken until quite recently for full scale automation to become part of every day life in DAW world. The trouble is that while it's easy to automate stuff, having professional control over the automation data takes a bit more effort. Sequoia 10 has comprehensive track based automation across the mixer with read, write, trim, touch, and latch functionality. This can be applied to volume, pan, and EQ settings, as well as aux sends. On top of that, objects can have volume and aux send automation embedded into them, which is nice when using a mouse/drawing model if a mixer or hardware controller with proper faders isn't available. I still miss 'write to end' for example, but there's no doubt that this is a big step forward for the Sequoia package.

On the brute force side, multi-CPU capability seems to me to be timely with the advance of quad and eight core machines. For MIDI lovers, Sequoia has been upping the ante over the last few revisions and support for MusicXML, real time score display, and the enhanced MIDI tools demonstrate that Magix (the developer of Sequoia) is not content to let Steinberg have MIDI all its own way. And there must have been some midnight Asio oil burning as one thing that made me jump for joy was that my old Mykerinos Asio drivers finally worked okay, and that's saying something. It's sometimes the little things that make you happy. Like the great big play button in the mixer – that really did make me smile.

Probably long overdue is the playlist overview

THE REVIEWER

ALISTAIR MCGHEE began audio life in Hi-Fi before joining the BBC as an audio engineer. After ten years in radio and TV, he moved to production. When BBC Choice started, he pioneered personal digital production in television. Alistair is now Assistant Editor, BBC Radio Wales, but is allowed out occasionally.

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Sequoia version 10 is characterised by a wide range of choice and configuration. New features include upgraded automation, multi-CPU support, playlist, and new plug-ins.

window, which helps you keep track of where you are in a complex edit session. And then there's the track editor, Sequioa loves to let you edit things and if you're not editing them then you can be managing them. The track editor, collects together all the audio and MIDI options including – plug-ins, aux sends, and EQ settings, and displays them in a single dialogue to the left of your playlist. And if you don't like it just switch it off.

Plugged In

Of the new plugins, the new VariVerb Pro sounds great and has, as you would expect, more controls than the department for homeland defence. However it comes with lots of great presets and there's a simple mode which reduces your controls to three. Nice job. Listening to VariVerb alongside my preferred reverb which is the Wave Arts Master Verb, I was pleasantly surprised by what is a freebie with Sequoia. Interesting to note though that the Wave Arts is much leaner on DSP.

Putting the new plugins to the test I dug out an old Dave Edmunds multi-track recorded at the Coal Exchange in Cardiff for the BBC Wales series In Concert.

First up was AM|Track, the compressor and tape saturation modeler, I had fun with this but ultimately I decided Mr. Edmund's unique vocal set up needed something more. A quick run through Sequoia's modulated effects produced a few smiles. I patched in Corvex by accident. The chorsus/flanger sounds great but just was not what was required. Ecox the echo/delay plugin did my head in – though I was a teeny bit tempted by the spring emulation. Suitably boingy. I settled on AM|Munition which is an optical compressor emulation providing plenty of bang without any nasty edges or pumping. A touch of the de-esser and we were well away. In typical Sequoia fashion there's another way of doing this. Select 'MultiBand Dynamics' and click on the preset 'Warm Vocal with Deesser Advanced', and Bob's your uncle – durch technik – of course. It's great to have the flexibility but it must be confusing for the new user, there's an awful lot of layers. On the next track the great Welsh piano wizard Geraint Watkins takes a vocal – grab that VariVerb and slap in an ambience patch and things sound much improved. The same multitude of options are available in noise reduction.

You hum, I'll Play

I didn't get to go to South by South West, but I did get to touch the hem of its musical garment. SXSW is one of the world's biggest music events and a prime showcase for musical talent from around the world. This year Wales contributed some top tunes from The Automatic and The Stories among others. My colleagues in Radio 1 made the trip this year but hit a bit of a glitch with some nasty mains hum on a couple of their recordings. This is a job where Sequoia in its latest version 10 livery comes into its own. You have comprehensive EQ built in, you have noise removal by noise sampling, you have spectral noise removal, and you have FFT filtering that allows you to draw in the filter curve of your choice. The spectral removal tool is designed for the impulse sounds and as such is limited to a two second window and in the event I found the bog standard parametric eq did the job without any fuss.

As if to prove the point I was in a meeting recently with some developers from one of the world's big players in media production software. They were talking about new features for their audio application and flagged up one of their killer top lines for the next revision. "Oh yes," (I couldn't help myself), "I think Sequoia has had most of that for two or three years now." Cue a frantic burst of note taking.

And it really is choice that is the big theme of Sequoia 10. For instance, if you want to monitor you now have five different options ranging from visual peak metering only – for use with an external mixer – through to all Asio singing and dancing kitchen sync monitoring for low latency hi powered machines. And even here there are mo re options – you can make individual tracks 'economy' and save on that vital CPU power. And what is really nice is the 'live' help which graphically displays what exactly you're getting in your monitor choice.

One new feature that promises much is Audio ID which matches the waveform of the audio against an online database to identify the track (if it's a CD import). Sadly it couldn't escape from behind my firewall, but if it does what it says on the tin then broadcast music reporting will become a joy rather than a chore.

I've always found Sequoia and it's little Samplitude siblings to be very stable but I had a couple of wobbles on 9 but my 10 is granite so far. So Sequioa is advancing on all fronts, there is very little the software can't do and often it gives you a choice of tools. Here what you pay for is what you get. There's few things more depressing than finding your new software needs more money spending on it to add features you really thought you were paying for in the first place. Sequioa packs in a load of things others ask you to pay for, recently I had an e-mail inquiring whether I knew of any software that could playback while recording. Yes, Sequoia can playback while recording, in fact it's so clever it can edit the file you are recording while you are recording it.

Conclusion

One danger with trying to cover so much ground is that the more areas you address the more features customers will want. For instance, the new video engine is great, and now it's there I'd like auto-conform to go with it. That's just life and it means when shelling out the dosh, first make your list of key features, then check the spec, then try out the contenders. I think Sequoia will be on a lot of lists. There aren't that many heavy weight DAWs on Windows, and Sequoia 10 is one fat app.

INFORMATION

£ Magix Sequoia 10.0, GB£2,344.13 (inc.VAT)

Ⓐ Magix (Customer Support), 701 SW 27th Avenue Suite 1403, Miami, FL 33135
Ⓣ 1 305 642 6300
Ⓕ 1 305 642 6400
Ⓦ www.Magix.com
Ⓔ info-us@Magix.net

Ⓐ DACS Audio (Digital Audio and Computer Systems Ltd), Stonehills, Shields Road, Pelaw, Gateshead, Tyne and Wear, NE10 0HW
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PICTURES | SATELLITE | WIRELESS | DIGITAL CINEMA | GAMING | CORPORATE COMMUNICATIONS | SOCIAL MEDIA

GET THE FIRST LOOK AT NEW INNOVATIONS

The NAB Show exhibit floor is the home to 1,600+ companies showcasing the latest in content creation, management, commerce, distribution and delivery, including every element of television and radio broadcasting, film/video production and post production, audio production, multimedia, Internet, satellite and telecommunications available to industry professionals today. Don't miss your opportunity to shop the latest in technology and speak with the experts involved with the development of the products you need to grow your business.

See solutions from 1,600+ exhibiting companies, including:

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- AJA
- Amino Communications
- Blackmagic Design
- Canon USA Inc.
- Christie Digital
- CNN Newsource
- Dolby Laboratories
- EMC Corporation
- Google
- Grass Valley Inc.
- Harris Corporation
- Hitachi Kokusai Electronic America Ltd.
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- NTT Electronic Corporation
- Qualcomm Inc./MediaFLO
- Red Digital Cinema
- Scientific-Atlanta, a Cisco Co.
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All NAB Show registrants have access to these targeted areas on the exhibit floor highlighting emerging technologies, focused solutions, educational sessions, product demos and more.

- Content Commerce Area - NEW
- Content Distribution Forum - NEW
- IPTV Pavilion - NEW
- Mobile Solutions Pavilion - NEW
- Technologies for Worship

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Attend the NAB Show and you'll see why it's the WORLD's marketplace for product introduction. Targeted layout of halls and pavilions allow for efficient exploration of exhibiting companies showcasing the products and emerging technologies you need to succeed.

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4K, HDTV, SDTV Video Cameras, Lenses, Lighting, Grip, Film, ENG Vehicles and On-Site Production Gear.

Content Commerce Area
Owners, Aggregators and Producers showcase their digital content to align with broadcasters, distributors and delivery technologies.

Delivery & Distribution
IPTV, Mobile TV, Satellite, Telecommunications, Hand-Held Devices, Wireless, Streaming, Broadband, Fiber, On-Demand Services, DTV, HDTV, Towers, RF Technologies, Microwave and Digital Cinema.

Display Systems
Digital Signage, Projection Equipment, Video Display, AV Integration, LED & Plasma Technologies, Program Software and Mounting Equipment.

Management & Systems
Digital Asset Management, Video/Content Servers, IT/Networking Technologies, Software/Hardware, TV Automation, Video Switchers, Multicasting, Set-Top Boxes and Search & Database Technologies.

Outdoor Media & Equipment
ENG, SNG, DSNG Vehicles and Services, Mobile Production Studios, Outdoor Signage, Power Generation and Satellite Uplink Technologies.

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Video & Audio Editing Software/Hardware, Special Effects, Graphics, Animation, Gaming Development Software, Music Sound Libraries, Video & Image Libraries, Duplication and Encoding Solutions.

Pro Audio
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Radio
Analog, Digital and Streaming Technologies for Radio, HD Radio, News & Weather Services, Advertising Technologies and Scheduling Software.

RTNDA@NAB
Cameras, HD Products, Digital/Audio Editing Equipment, Content, Graphics, Set Design, Sound/Music Libraries; presented jointly with the Radio-Television News Directors Association.

Technologies for Worship
Video and Audio Capture, Mixing and Presentation technologies and services geared toward the exploding religious marketplace; presented jointly with *Technologies for Worship Magazine*.

Telecommunications
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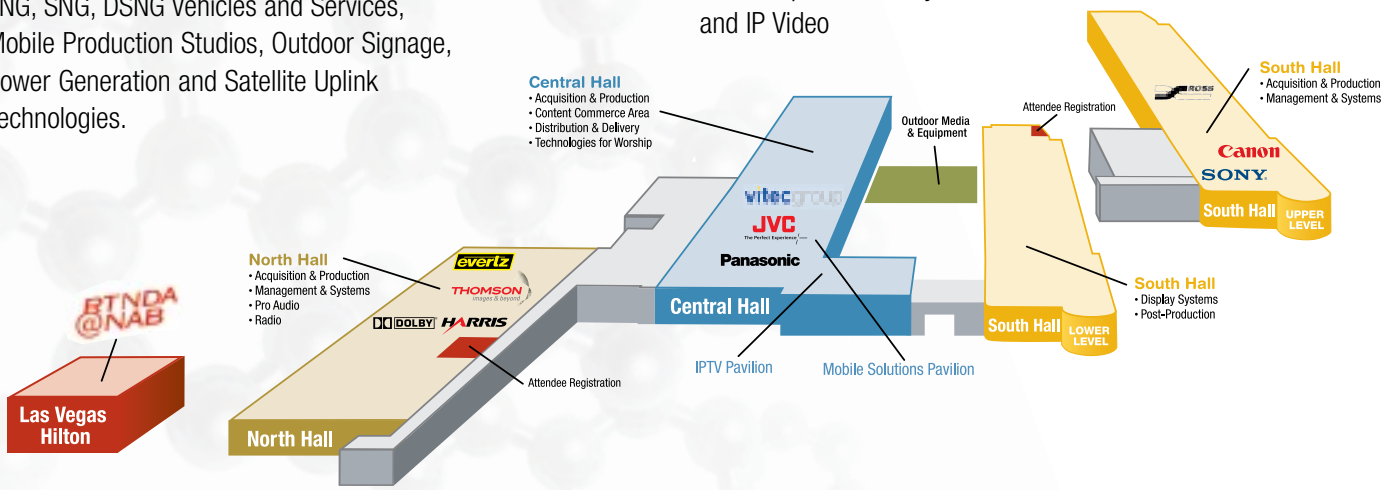

RTNDA@NAB EXHIBIT HALL HOURS
LAS VEGAS HILTON HOTEL

Monday, 14 April – Tuesday, 15 April
9:00 a.m. – 5:00 p.m. (09.00 – 17.00 hours)

Wednesday, 16 April
10:00 a.m. – 3:30 p.m. (10.00 – 15.30 hours)

NAB SHOW EXHIBIT HALL HOURS
LAS VEGAS CONVENTION CENTER (ALL HALLS)

Monday, 14 April – Wednesday, 16 April
9:00 a.m. – 6:00 p.m. (09.00-18.00 hours)

Thursday, 17 April
9:00 a.m. – 4:00 p.m. (09.00 – 16.00 hours)

PROFESSIONAL DEVELOPMENT LEADS TO SUCCESS

The NAB Show offers the world's largest and most comprehensive education program. Invest in a conference registration and gain information on concepts that will maximize marketplace opportunities related to:

- Content for a global audience
- Content produced and delivered in high definition
- Content re-purposed to grow profits and generate new revenue streams for your business.

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- Radio Management Conference
- Television Management Conference
- Broadcast Engineering Conference
  – *Produced in partnership with SBE*
- Broadcast Regulatory & Legislative Conference

Post|Production World Conference

– *Produced in partnership with Future Media Concepts*

- Apple, Avid & Sony User Certification Workshops

All sessions are presented in English.

Broadband TV World

Digital Tech Guru Workshop

Director of Photography Workshop

MPEG Forum

MoTV: Mobile Video & TV Forum

Digital Cinema Summit

Podcasting Summit

Producer|Director Workshop - NEW

Sports Technology Forum

Technologies for Worship Conference

Telecom2008

Web Media 2.0 Workshop - NEW

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mpeg Industry Forum

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SMPTE

SVG Sports Video Group

tfwm Technologies for Worship Magazine

GET READY FOR THE NAB SHOW

Join a Delegation From Your Country

Traveling to the NAB Show as part of a delegation will make your experience easier and more enjoyable. Delegations not only benefit from convenient group registration and hotel room block reservations, they also receive complimentary exhibition registration (savings of $150.) As part of the prestigious International Buyer Program (IBP), of the U.S. Department of Commerce, the NAB Show is supported by a worldwide network of local partners and delegation leaders. For information on participating in the Show, for planning assistance, or to join a delegation from your country, visit ***www.nabshow.com/international*** or e-mail ***delegations@nab.org***.

Secure Your Visa Early

As the world's largest marketplace for the electronic media industries, you cannot afford to miss the NAB Show ... and we want to make sure that the registration and visa application process will not slow you down.

Changes to the visa application process may have increased the length of time required to receive your visa, so it is very important to apply for your visa at least 90 days prior to your departure.

Go to ***www.nabshow.com/international*** to use our simple online form to request a letter of invitation to include with your visa application. Contact your nearest U.S. embassy/consulate or visit ***www.travel.state.gov*** for complete, up-to-date information on visa procedures.

Register and Reserve Hotel Rooms Online

Visit ***www.nabshow.com*** to register and reserve your hotel rooms online. Make your reservations early to get your first choice of over 30 available hotels.

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PRODUCT SAMPLER

TRADE SHOWS/EXHIBITIONS 2008

Audio Media spins the office globe in anticipation of jetting off to some of this year's trade show and exhibitions.

It's (a) New Year, so time to fire up those digital diary-style apps, PDAs, or even clip in some replacement Filofax pages. Whatever Santa's brought you is fine by us. Anyway, what better way to start the year than by marking up a tasty selection of pro audio trade shows and exhibitions from exotic (and not-so-exotic) locations around the globe? On the off-chance that some shows shuffle dates, best keep an eye out in the magazine for up-to-date info. In the meantime, digits/pens at the ready...

NAB2008 is, quite rightly, billed by its organisers as being, "The World's Largest Electronic Media Show". Doubting Thomases should try the following stats for size: 111,028 attendees at NAB2007, with 27,000 international attendees from 163 countries, and over 1,600 exhibitors generating an estimated US$50 Billion in commerce. No doubt said organisers are hoping to squeeze yet more mileage this year with networking, collaborating, and learning on the grandest of scales, when the NAB (National Association of Broadcasters) show returns to the voluminous (140,000 square-metre) surroundings of the Las Vegas Convention Center – filling out all of its halls, in fact – on April 14-17 (conferences April 11-17, conveniently located within walking distance of over 100,000 guest rooms, although whether anyone would want to walk anywhere in North America's most dazzling city is open to question! Rest assured visitors can bank on doing a lot of walking within the city's Convention Center, though!) Needless to say, NAB2008 promises another conference programme packed with industry experts and media visionaries alike. "Electronic Media's Essential Destination... Let Your Journey Begin."

www.nabshow.com

Dating back to 1977, the annual PLASA (Professional Lighting And Sound Association) show is a well-established technology trade event for the entertainment and installation industries – a premier platform for the launch and demonstration of lighting, audio, AV, stage engineering, and special effects to boot.
Since then it's gone from strength to strength and is probably the UK's most successful show in this arena. This year's exhibition is once more at Earl's Court, London, from September 7-10.

www.plasashow.com

The AES (Audio Engineering Society) Convention is held bi-annually – once in Europe, and once in the United States, and has generally thought of as being the big one for the world's pure pro audio industries. Attracting academics, engineers, and artists alike, its papers, workshops, and standards committee take up a large portion of the Convention, running in parallel with the main exhibition. The general form is that each convention has a theme, a respected keynote speaker to 'officially' open proceedings, followed by a packed programme of events. This year, the 124th AES Convention unloads at city of Amsterdam on May 17-20. The RAI is an excellent exhibition hall with all the facilities you could hope for, near the centre of a city that is buzzing with life – good dining and bars, and a range of hotels for all budgets.

As for the Stateside event, it's a simpler affair, geographically – either East Coast or West Coast – although as big and well-attended as one would hope for. This year, it's west for the 125th affair, held at the Moscone Centre in San Francisco, from October 2-5.

www.aes.org

After experiencing its busiest show to date in 2007, this year's International Broadcasting Convention (IBC) returns to its regular haunt – Amsterdam's RAI Congress Centre – on September 12-16 (conference opening on September 11). Celebrating its 40th year with last year's show, IBC covers the whole breadth of electronics communications, with well over 1000 companies from over 120 countries expected to fill 40,000 sq. metres of space across a strongly themed 11-hall exhibition. Total attendance for IBC2007 (46,964) was up by just under 2000 on the previous year, an impressive trend that looks set to continue.

www.ibc.org

Supported by the VPLT – The Professional Lighting & Sound Association of Germany – the EWC – European Association of Event Centers, Prolight + Sound Frankfurt 2007 – the international trade fair for event and communication, audio-visual production, and entertainment technologies – takes place at its preferred Messe Frankfurt location on March 12-15, under its *Creating Emotions* banner.

This year, the show's spotlight focuses on an overview of all aspects of event technology and equipment in a fast-moving professional world where lighting, video, audio, effects and stage constructions increasingly need to communicate with each other and work synchronously.

www.prolight-sound.com

NAMM hosts two trade shows in North America for the musical instruments and products industry throughout the year. First up, The NAMM Show 08 rolls into California's Anaheim Convention Centre on January 17-20 with more than 1400 exhibitors expected to fill the vast venue to bursting point. Later, NAMM Summer Session will be returning to Nashville, Tennessee, on June 20-22. The smaller summer show is approximately one-third of the size of the NAMM Show, and focuses more on industry meetings and professional development

www.thenammshow.com

SBES (Sound Broadcasting Equipment Show) returns to Birmingham NEC's The Pavillion for its traditional annual two-day run on November 7-8, but this time with some changes. SBES is a somewhat more intimate affair than the likes of NAB and NAMM, usually attracting around 1800 visitors from independent radio, public service broadcasting, community hospital radio and broadcasting, TV sound engineers and supervisors, freelance sound engineers, and sound recordists, as well as people involved in the manufacturing and distribution of sound- and broadcast-related products and services. This year, along with a new image, logo and website, the show is branching out to include technologies and services associated with broadcasting in its widest form, not just sound. If last year's show was anything to go by, its 2000 sq. metre floor space will be occupied by over 100 exhibiting companies offering help and advice about equipment and services for sound broadcasting, along with a wealth of other technologies associated with radio and other broadcasting mediums.

SBES08 BROADCAST + AUDIO EVENT

www.sbes.com

Broadcast LIVE incorporating VideoForum 2008 focuses on production, post, new media, and IP delivery, and is again set to take place at London's Earls Court 2, on Jan 30 – Feb 1. With over 200 leading manufacturers and suppliers, over 300 seminars and workshops, and free conference sessions, you can kick start your year with the chance to see all of the latest and best technology for the sector, and to discover new skills, approaches and markets. New features for this year include a footage zone, IPTV centre, bookshop, and OB truck.

BROADCAST LIVE

www.broadcastvideoforum.co.uk

PALME 2008 – the Middle East's unique showcase for major international manufacturers, key regional suppliers, installers and integrators from the professional entertainment, events, and project installation industries – is taking place on April 27-29 at the Dubai International Exhibition Centre. The fifth such show (PALME 2007) attracted 272 exhibitors from 800 companies across the sector, and over 7,000 visitors across three days, making it the biggest PALME to date.

PALME MIDDLE EAST

www.palmeonline.com

The 30th ABTT Theatre Show will take place at London's Royal Horticultural Halls on June 11-12. Last year's show broke attendance records by over 15% from the previous event, with visitors from all across the industry. Now in its 30th year and going from strength to strength, over 100 exhibitors will fill the halls to capacity with a spectrum of technical solutions for all involved with equipping, refurbishing or up-grading their drama studio, theatre, auditorium or multi-purpose performance space.

ABTT

www.abtt.org.uk

A new trade event in 2008 brought about from the unification of the well recognised SATIS, SIEL and Le RADIO shows, the event, held on 20-23 October at Paris Expo Porte de Versailles, will represent the largest offer of goods and services dedicated to the audiovisual, live entertainment, events, and radio broadcasting sectors. SATIS-SIEL-RADIO brings together all the key players of the French professional audiovisual industry, with conferences, workshops, Le Radio! studio, and more associated events.

SATIS Siel RADIO

www.satis-expo.com

Come July 8-10, the Suntec Singapore International Convention and Exhibition Centre will play host to the 20th staging of PALME Asia 2008 (formerly the PALA show), priding itself as being the most established international exhibition and conference, showcasing sound, lighting, AV, music, broadcast, installation, and system integration in the South East Asia region. Organisers state that over 7,000 visitors came through the doors of the 2007 PALME Asia show, and with more than 200 exhibitors, the show secured its reputation as the largest gathering of entertainment professionals in the region.

PALME
The Global Series of Professional
Sound, Light, Music, Audio Visual
& Systems Integration Exhibitions

www.palme-asia.com

The Develop Conference & Expo is where the European games developer community come to share experiences and learn from one another, be inspired by world renowned experts, and get up-to-date with the latest development tools and techniques, make new contacts, and catch-up with old ones. With over 100 speakers at last year's conference, Develop 2008 looks set to continue the success of last year on July 29-31, at the Hilton Brighton Metropole, Brighton. Audio Media will be the Media Sponsor for the Develop Audio Track.

29-31 JULY 2008
develop
in brighton

www.develop-conference.com

Held at the Congress Centre in Leipzig, the bi-annual event that is Tonmeistertagung returns for 2008 on November 13-16. Aimed at professionals in the A/V media branch, the last show attracted over 3,500 visitors and 233 exhibitors. For over 50 years the Tonmeistertagung has grown into one of the most significant conventions for pro audio. Lectures, presentations, workshops and exhibitions will all contribute to make the 2008 event one for the diary.

www.tonmeister.de

Music Live, this year integrating Sounds Expo, is to be held November 7-9, 2008, at the NEC. Billed as the biggest and best music making event in the UK, and sporting over 150 exhibitors, seminars, a live stage, and all the latest gear; the show is aimed at music junkies at all levels, from wannabes to professionals, and of all specialities.

MUSIC LIVE AT THE NEC NOVEMBER 7-9

www.musiclive.co.uk

prolight+sound

12 – 15. 3. 2008
creating emotions

Show and technology are vital aspects of any event, no matter how large or small. Maximum success can only be achieved with optimal coordination of these two disciplines. Technological innovations increasingly enable the use of new design possibilities in the audio sector. And it's precisely these creative applications – e.g. from the digital technology, multichannel audio or fibre-optic transmission sectors – that often lead to a decisive competitive advantage. Prolight + Sound, the leading international trade fair for event and communications technology, AV production and entertainment, showcases all the most important industry trends and product innovations and gives valuable inspirations for your business.

Tel. (0) 17 53 86 70 30
info@uk.messefrankfurt.com
www.prolight-sound.com

Supported by VPLT – The Professional Lighting & Sound Association of Germany, and EVVC – European Association of Event Centers

messe frankfurt

MICROPHONE APPLICATIONS

DAVE FOISTER discusses the applications and benefits of the often neglected omni and ribbon mics.

I love microphones. I'm not particularly geeky about them; I couldn't tell you what valves the 1957 Polish version of the Blumenthal S86B used, or which particular Hi-sonix H5050 was used to record Blind Toots O'Flaherty's jaws harp solo on Lou 'Onions' MacDougall's classic 1949 recording of 'My Baby Done Sue Me'. I don't have a museum of pristine classics, lovingly maintained with original parts tracked down from landfill sites in the Urals and rented out at vast expense to true microphone cognoscenti for whom simply nothing else will do. When, glowing with pride, you show me your vintage collector's item, I don't sniff, "Ah, that's a 1953 version isn't it? For the real essence of that model you have to go back a bit further. They changed the wire they connected the capsule with in 1952 and it frankly ruined the sound."

Fading Thrills

That said, there's still a thrill on opening the fader on a microphone I've never heard before, and real rewards to be had from trying something differewnt and finding it works; there's also satisfaction from being able to anticipate what you're going to get from a particular setup, using what you know about polar patterns and a given microphone's inherent sound to achieve the result you're after.

Of course for a very large part of what we do, a cardioid microphone is ideal, and we've got a vast arsenal of those to choose from, with dynamic/condenser, tube/solid state, large/small diaphragm, vintage/modern and a hundred other options to consider, to say nothing of the range of manufacturers from industry grandees to arriviste boutique brands. Everybody has an opinion, everybody has their favourites (and their pet hates), although I doubt if there's anybody anywhere who has knowingly heard them all.

Interesting though they are, there's an additional fascination in the less familiar mics, with less familiar ways of doing things and a whole different set of capabilities. I sometimes get the feeling that in the time-pressured world of the commercial studio there's just not time to mess with different ideas, and it's much easier to use tried-and-tested friends, or at least stuff that you know other people have got good results with. So up go the favourites, and that thing you wanted to try with the mic at the back of the cupboard will have to wait for another time.

Perfect Omnis

I think omnis get a raw deal as a result. Everybody knows they make great spaced pairs, and orchestral recording uses them as flown outriggers and curtains, but they don't get much of a look-in in 'normal' studio sessions. For a start, it's not always appreciated how much of a difference there is between a multi-pattern condenser set to omni and a dedicated omni like the familiar ones from DPA and Earthworks. Set a twin-diaphragm condenser to omni and you get two back-to-back cardioids summed. Any deviation from perfect cardioid sums to twice the deviation from a perfect omni, and nobody should be under any illusion that such a microphone is capable of perfect cardioid pickup at any frequency; look at the variation of pattern with frequency and it all starts to look horrible. A microphone like this can only give a rough semblance of omnidirectional behaviour, and will also probably retain some proximity effect as a result.

'Proper' omnis on the other hand exhibit no proximity effect whatsoever, so can be used as close to a source as you like without any bass tip-up. This raises an interesting thought for those who think cardioids are the way to isolate instruments and reduce spill. Look at a cardioid pattern, and notice how little the response is down at 90 degrees either side; the only truly rejected area is directly behind the microphone, and few models can achieve complete rejection there at any frequency. Most in fact become pretty much omni at high frequencies, meaning that the spill pickup is huge and extremely coloured. The way to improve separation is to move the mic closer, but you quickly run into problems with proximity effect and end up with a booming sound that (a) pushes up the overall level with signal you don't want, and (b) has to be EQ'd to get back to the sound you were hearing in the first place. An omni on the other hand can be moved in much closer than a cardioid without this trade-off, and will then be picking up no more room spill than the cardioid relative to the wanted source. It will almost certainly remain pretty close to omni throughout its frequency range, so what spill there is will be clean and real and far less of a problem. I like this particularly on double bass in a jazz session, where drum spill is always a problem and most cardioids struggle with the bass sound when up close. A good omni can be put as close as you like to whichever part of the instrument is giving you the sound you want, or even wrapped in foam and stuck under the bridge. Good separation, clean bass, and the other special attribute of a real omni: ruler-flat frequency response.

Check out graphs for a typical Earthworks omni and you'll think either they're lying or their test gear is broken, but no: that straight line really is what it does, way down to the lows and way up past 20k. No other microphone type can do this.

Of course many mics are chosen specifically for their colour, but I think there's a lot to be said for using a microphone from time to time that actually tells it like ▸

THE REVIEWER

Since doing the Surrey (UK) Tonmeister course, DAVE FOISTER has produced, engineered, and played on innumerable recordings in the classical, commercial, folk, jazz, and TV music areas, as well as live sound operation. He currently manages the Guildhall School of Music and Drama recording department, and spends spare time watching racing cars and wishing he was driving them.

it is. Our favourite microphones almost never capture the real sound – they always impart their own character, which is fine as long as you know that's what they're doing, but it can be an eye-opener to use a microphone that is truly neutral. Even vocals can sometimes benefit from this – I've had singers choose an omni in a shoot-out without knowing anything about what they're listening to. We expect audio and video monitors – and video cameras – to be accurate and to give us an exact rendition of what we're working on, and it sometimes seems weird that we don't have the same expectations of our microphones.

Appealing but Fragile

Elsewhere I've gone on at some length about the CAD Trion 7000, a bold new ribbon microphone that sets out to bring the distinctive properties of the technology to a wider audience. We're all familiar with the BBC-designed 4038, although few of us use them regularly, and of course with beyerdynamic's enthusiasm for small ribbons and the applications where they shine. Royer too, with its updates on innovative old Bang & Olufsen designs, has tried to evangelise to the world about the special appeal of the ribbon. Part of the problem perhaps is that we're also familiar with the inherent downsides of a ribbon design. You'll rarely encounter a more massive magnet outside a loudspeaker or a motor than the one on which a big ribbon mic relies, and as it's big enough to be death to tapes and hard drives it's a worrying thing to have around in a recording studio. Stories abound like the one of the 4038 'accidentally' put down on top of the multitrack of a project that was going badly, thereby necessitating a complete restart to the project and a lawsuit to establish who did it. Even now, the Trion user instructions warn against using it in an area where there might be iron filings, as they'll get pulled inside and gum up the works.

There is also fragility. Just moving a 4038 too quickly through the air can break its ribbon, and in fact it used to be part of BBC training to be able to make and fit a new one, crinkling up a little bit of foil and tensioning it across the mounting screws. As mentioned in the review, the Trion protects its ribbon assembly pretty thoroughly, but still tells you not to try recording kick drums with it. Phantom power on a ribbon can sometimes destroy it – the list goes on. And the output level of old ones can be painfully low; often they're such low impedance that they can work over hundreds of yards of unscreened bell-wire without picking up hum and noise, but the gain needed in the preamp can stretch its own performance to its limits.

So why bother? Simply, because they sound great and have a very predictable response that can't be properly achieved any other way. Much of what was said about the omni applies here too, in the sense that a multi-pattern microphone can only approximate the polar response of a true figure-of-eight (older engineers will remember them being called cosine microphones because their response, for pretty obvious reasons, should be exactly the same as a polar plot of a cosine function). The same cardioid capsules that are summed to give an omni are subtracted to give a fig-8, and the success and linearity of the result depends on the accuracy of the cardioid patterns, which as suggested is not usually that great. A ribbon does it properly: sound coming at it from the side simply doesn't make the ribbon move, so gives no output. Its nulls at the sides are therefore pretty much perfect; and of course it's not just the sides, it's the top and bottom, in fact a complete disc surrounding the 'neck' of the 8.

This is the biggest and most reliable area of rejection exhibited by any mic pattern. As long as there's nothing too close directly behind a ribbon, the null area can be pointed pretty much anywhere you want, isolating a double bass or singer from an adjacent drum kit or piano, for instance; see the Trion 7000 review for how it worked on violin in a piano trio. Its other big underused application of course is MS work, where a decent ribbon as the side mic can be coupled with almost anything you like as the mid – don't believe anybody who tells you it has to be a cardioid. Anybody with Pro Tools has an MS decoder, and the benefits of recording piano or drum overheads with in raw MS have to be tried to be appreciated. Any stereo pair can be narrowed with panpots of course, although it never seems quite so convincing as tweaking an MS pair; but it's not so easy to make it wider than you originally recorded it – unless you're working MS, in which case it's a piece of cake. And of course even without a dedicated MS decoder you can 'make' one with any mixer – feed the side-fire fig-8 to two channels panned hard left and hard right, with the right phase-inverted, then add that pair (always set to the same level as each other) to the front-facing mid mic panned centre until you hear the stereo picture you want.

Once you're persuaded of the delights of MS, you're ready for a Soundfield……

But don't start me on that.

THE STUDIO BIZ:

WORD UP!

ADVERTISING AND SALES

In getting the customer through your studio door, ANDREW GRAEME looks at the three important steps of advertising and sales, and generating the most important advert of all: word of mouth.

As we have seen over the past months, there is a great deal more to marketing than trying to sell something. You have found out what the rough size of the market in your location is, and how much you can draw from outside your immediate catchment area. You have benchmarked your facility against others and found out what the customer expects to have to pay. You also discovered what the customer hopes to find in your studio and possibly even what they think of you.

Now we come to the last part, getting them through the door. To do this, there are three steps you have to take. Firstly you have to make the customer aware that you exist, then you have to inform them about your product and lastly, get them to buy it. These three steps are called Image, Inform, and Initiate Sale.

Image

The objective is not to try to sell anything, but to enhance the image and get your brand well known. The most familiar form of image creation is advertising on television and should make people aware of the existence of a brand and associate with it qualities that they are seeking.

When you are sitting at home, watching television and you see an advertisement for Sudso Washing Powder, there is little likelihood that you will rush out to buy a pack of Sudso, but with each viewing, you are becoming more 'Sudso aware'. if the advertisement is doing its job, you will associate Sudso with sunshine, flowers, and all the good things in life. Of course, TV advertising is totally inappropriate for a recording studio. But you will still need to make potential customers aware of your facility and associate it with quality work. The good news is, this does not have to cost you anything!

Recording studios and similar facilities are more newsworthy than other businesses. Combine that with the fact that most regional media are crying out for good, local stories and you will see that your latest project could be on local television or in the local paper, getting your message across. An article about your studio can carry weight and enhance your image, and at no cost to yourself. The important thing to remember here is a hook. The hook of a story is the event or angle that the journalist uses to hang the rest of the story from. For example, 'Scunthorpe Studio buys used Piano' is not a story. But 'Piano from Famous Musician comes to Scunthorpe' is a story.

If you have recorded some film music, tell the local press, especially when the film is about to come out. Even some TV theme music is worth a mention and local newspapers often use a 'hook' like this to hang an entire feature on about your studio or about the music business in general. As a rule of thumb, it is a good idea to get one good write-up in the local press about once a year, usually during the Summer, when there are fewer competing news stories, the so-called 'Silly Season'. A simple press release, outlining who you are, what the story is, and inviting them to call you to find more, is all you need.

You can also get good column inches and enhance your reputation by donating studio time to worthy causes. This could be for talent show winners, or just the local male voice choir's next charity album. All this type of activity not only gets your name out into the community, but also puts you and your facility into a good light.

A simple and effective form of advertising is to put up a sign. I can remember one German studio in the 70s that was able to outsell all his local competitors, despite not even having multitrack, simply by having a nice brass nameplate displayed at a major T-junction. Every day, thousands of commuters had to stop at that intersection and the studio sign was right in front of them.

Part of your image, is the name of the studio. Most studios are named either for the building they are in, or the street they are on. Not only does this help the customer to find the place on a map, but gives it a familiar and reassuring sound. Marketing people regard pompous names for small companies to be deadly – and they are almost certainly right. Calling a studio in a shed 'Allied National Media' can only lead to disappointment. Calling it 'The Shed' and even using a picture of a shed in the logo is more in the spirit of rock-n-roll.

Many studio owners get the message out there by giving advice on recording forums, though this can be a double-edged sword, as arguments seem to break out with regularity in the less professional boards. So caution is recommended! But one US studio owner told us that, by regularly posting short and sensible answers to musicians' questions about recording, they have received bookings worth $30,000 over the past two years from forum members contacting them as a direct result. The manager of a Christian studio also claimed to have been able to book several thousand dollars' worth of business as a result of posting in Christian music forums.

Inform

Your most important method of informing prospective clients about your studio is your website. It is also the place where many studios manage to annoy their customers the most.

One agency employee told me, "If I am researching studios for one of our artists, the very last thing I want to see is a multimedia presentation, complete with music and animation. If they insist on wasting bandwidth on that sort of thing, don't put it between me and the information I need, or I just won't bother to look any further!"

The first page is still part of the overall image, so a couple of nice pictures, a short mission statement and of course a menu. Potential customers told us that they were looking for a kit list, a list of services, pictures of the studio, a recent client list and a plan of the studio floor.

If building your own website is not your idea ▸

of fun, there are even more web designers out there than demo studios (though you might find this difficult to believe!). This means that getting a professional-looking website up and running, complete with template for you to update when necessary, can cost you as little as £200. There are also dozens of web space providers that also bundle in templates that make site building very easy and can integrate proper html that you have either written yourself or have had written for you. They also provide URLs, and most seem to cost about $5 a month or less.

In this age of unyielding torrents of spam, there is still a role to play for the humble email. A regular newsletter, emailed out to all friends, customers, and potential customers helps to remind them of your continued existence and inform them of improvements you might have made. Also inform every person out there that has links to the music scene, so put local music stores, piano tuners, and even equipment repair shops on your list.

Not everybody is on the Internet all the time. You still need to be able to get your message across at trade fairs, back stage at venues, at business meetings or just out and about when shopping or going out at night. That means you need a simple, full-colour brochure. If you want people to think of your facility as being fully professional, this should be in as good a quality as possible and never something knocked out on the office ink-jet!

Initiate Sale

Your most important tool for initiating a sale is the telephone. This means that you must have a landline and someone available during the working day that answers the phone. It is of course a long step from calling a studio and actually parting with thousands of pounds for the pleasure of using their equipment, so answering that first call is important. During that phone call, your goal is to get the customer to come into the studio and talk about their project.

The visit should be well-structured and you should be able to give them your undivided attention for as long as it takes to discuss every aspect of the recording. If possible, the studio should be free and of course, clean and tidy. It helps to have some unbelievably good examples of your work to listen to, that are relevant to what they are doing.

Although some studio owners may not like the idea, it is better to have a set sales routine – indeed, the customer will want you to go through the key advantages of your studio in a logical manner. Think about the way in which you show off the studio. Try starting with the live room, a quick walk through other parts of the studio and finishing off in the control room, with a nice cup of coffee or tea and a quiet chat. If the customer is the engineer or producer, have them sit in the (very comfortable!) chair that they would use during recording. That way, he/she gets used to the idea of sitting there and begins to feel familiar with the layout and, hopefully, at home.

Any furniture salesman will tell you that you must never ask the customer if they want to buy something. The question, "Would you like to book our studio?" will invariably illicit the answer, "Well, we are still thinking about it." which is tantamount to saying, "No!"

Once they are relaxed, you can begin to discuss the project. It is an essential part of any sales talk to listen carefully and deeply to what the customer is trying to achieve. That way, you can suggest improvements and even ways for them to save money. Keep the discussion going until booking your studio becomes the logical outcome of the conversation. If you show that you are as interested in their project as they are, and that their goals and yours could merge into one successful venture, they are more likely to trust their great opus to your studio.

And once they are happy to walk through your door, they might just tell their friends, and then you will belong to the majority of those we spoke to who told us that 60% of their trade came via personal recommendations from existing customers.

The best advertising of all!

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Camera Technology: Camcorder Evolution Part 3

KEVIN HILTON rides the wave of camcorder history through the '80s and '90s, looking at the wonders of miniaturisation that also meant an improvement in quality.

The basic form of the camcorder has not changed much since it first appeared during the early 1980s. The size of the combined camera and video recorder has been reduced considerably over the years, thanks to the wonders of miniaturisation and the vast improvements in chip technology, which enable single CCD models to give pictures that are on a par with those produced by cameras with three semi-conductors.

The reduction in size of modern camcorders has been connected directly to the recording media used. The means of recording images has been the most significant change in camcorder technology in the past ten years, moving from analogue to digital, and now with the shift away from video tape to a range of other media, with disc and solid state media vying for supremacy.

The Betacam SX.

Even with digital in the offing, major developments were still to come in the analogue domain from the mid-1980s up to the early '90s. In the professional sphere, Sony updated the Betacam format to produce Betacam SP (also known simply as Beta SP, the initials standing for Superior Performance). Like the majority of other recording formats, Beta SP began in the studio, and the exact intricacies of this and the other professional systems will be detailed and discussed in future editions of the Video Guide.

The next development of Betacam appeared in 1986; SP brought an increase in horizontal resolution to 340 lines, but more practical improvements were in the features on the VT machines, including a larger cassette with a recording time of 90 minutes. For many broadcasters, Beta SP became standard for shooting and playback, and was found at every post-production house in Soho. The success of the format is shown by the fact that it continued to be popular even when digital had taken hold, and as recently as five years ago, Beta SP camcorders were still held by hire companies, largely for corporate work.

In the early days of the format the recorder was a separate section that docked on to the camera front end. The first fully integrated Beta SP camcorder was the BVW-200, and throughout the 1990s, non-docking camcorders were the most popular in the range. The last in this hugely successful line of analogue camcorders was the BVW-600, which, while having a similar camera configuration to a digital equivalent, the DVW-700, it recorded to a SP device and, like others in the range, could play back only in black and white unless a converter was used.

As with the founding Betacam camcorders, the SP range were used widely for ENG (electronic news gathering) work by broadcasters, so other manufacturers were keen to gain a share in an important and always growing marketplace. Panasonic had introduced the M format as a competitor to Betacam, but this was regarded as offering inferior quality and slipped quietly away into technology history.

With the launch and quick success of SP, Panasonic tried again, this time with MII. Like its rival it was a half-inch analogue component system, and while it certainly fared better than its ill-fated progenitor, MII did not make significant dents in the grip the Beta SP format held on the market, with, in the UK, only commercial broadcasters Thames and Anglia adopting it. The other major manufacturers re-branded some Beta SP camcorders during this time to sell under their own names.

Both Beta SP and MII produced high quality pictures by being component systems. During the late 1980s and into the '90s, the big fight in broadcast technology was between component and composite video formats. Component was favoured because it produced better quality, as the luminance signal (Y) and colour difference signals (Cr and Cb) were treated as discrete feeds, in other words

SOUND PRO'S VIDEO GLOSSARY

Saturation

This refers to the degree of purity of a colour, with freedom from dilution by white light. Highly saturated colours have almost 100 per cent purity; de-saturated colours appear bleached out.

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Camcorder Evolution Part 3

New generation DVC Pros.

as "clean", during processing. Composite works by merging the signals to produce a single encoded feed, which is susceptible to degradation of both colour and detail when further processed.

The move to digital was regarded as the obvious way to improve quality and performance, although the component versus composite debate did not go away. The early digital video systems were aimed at the studio and post-production sectors. D1 was developed by Sony and BTS (Philips), and because it was a component format it was used for graphics and posting high-end commercials. D2 was composite and regarded as the digital replacement for the one-inch C format, again tying it to the studio.

In 1991 Panasonic introduced the D3, a half-inch composite system that was suitable for camcorders. This finally gave the company a convincing competitor to Beta SP, and it followed this up in early 1993 by producing D5, hailed as a higher quality D3, but operating on the same tape transport and cassette size as the earlier formats. But Sony was ready for both and a few months later came out with Digital Betacam, also known as DigiBeta or just Digi.

"The next shift for professional camcorders was a dramatic drop in size, mirroring what had been happening for some time in the consumer and semi-professional markets."

This became and remains, even now in these days of HD, a major studio and post-production video tool, but it made a particular impact in acquisition, for documentary and drama shooting, as well as ENG. DigiBeta was intended to succeed both Betacam and Beta SP, although backwards compatibility was guaranteed with its immediate predecessor. The new format certainly finished off the original Betacam, but SP continued to be used because, although cheaper than D1, DigiBeta was still expensive.

DigiBeta is a compressed component format using discrete cosine transform (DCT) technology to give 10-bit YUV 4:2:2 sampling in PAL resolutions at a bit rate of 90 Mbit/s. The format works with one of two cassette running times, either the S-type, with a duration of 40 minutes, or L, which runs up to 124 minutes.

The next shift for professional camcorders was a dramatic drop in size, mirroring what had been happening for some time in the consumer and semi-professional markets. From the mid-1990s the two sectors would become ever closer in terms of development, coinciding with a relaxing in the previously very stringent codes of practice used by broadcasters and regulators to determine the type of equipment that could be used.

A new method of recording digital video onto magnetic tape was developed during the mid-1990s, spawning the various formats that are used today. At the heart of this was compression, which enabled the use of smaller tape formats. The specification of DV (Digital Video) covers both the kind of compression used and the format of the tape recording. The basic recording medium is a digital video cassette (DVC), which is either

Camcorder Evolution Part 3

the L-size, with dimensions of 120 x 90 x 12mm, or the S-size 65 x 48 x 12mm tape, better known as MiniDV.

Both DV and MiniDV are ideal formats for camcorders and were great successes when launched into the wider market in 1996. The initial targets were the consumer and semi-professional sectors, but there was clear interest from broadcasters and filmmakers in this new, smaller, lighter means of capturing pictures.

Manufacturers took the basic format, as specified in IEC 61834, informally known as The Blue Book, and produced variations on the theme specifically for professional users. Sony introduced DVCAM, alongside the consumer Digital 8 range, which was based on DV but recorded to Hi8 tape, while Panasonic hit the market with DVCPRO.

JVC had attempted to prolong the life of VHS with a digital version, D-VHS, but this did not capture public attention in the same way as the original format. In the professional field, JVC had more luck with Digital S (later re-named Digital 9), although it was very much the third runner in a race behind DVCPRO and Sony's Betacam SX.

Betacam SX also appeared in 1996, heralded as a digital version of SP. A great part of its appeal was being considerably cheaper than DigiBeta and also fully compatible with SP tapes. Again it is a compressed format, using MPEG2 4:2:2 Profile@ ML, an improvement on 4:1:1 coding used in other systems, including DVCPRO and so resulting in better colour resolution.

Sony and Panasonic battled during the late 1990s for control of the ENG market, each looking to sell its respective system to not only as many broadcast organisations as possible but also the most prestigious and influential.

"The move to digital was regarded as the obvious way to improve quality and performance, although the component versus composite debate did not go away."

Despite the perception that DVCPRO was a lower quality format due to the 4:1:1 coding, Panasonic took a substantial share of the market from the outset. Panasonic's experts at the time argued that the only difference between 4:1:1 and 4:2:2 was in the sharpness of colour at the edges of a frame. This makes a difference for something like captions but not for newsgathering.

DVCPRO was also created specifically for ENG. Part of the range's success was its good linear editing performance and robust construction, making it ideal for difficult and rough situations. The bit stream used is the same as for other DV camcorders; the main differences being DVCPRO has a track width of 18 micrometers, Metal Particle tape rather than Metal Evaporated, and 4:1:1 colour sub-sampling in all PAL modes.

To tighten even more its hold on the newsgathering market Panasonic followed up this all-conquering product line with DVCPRO50, designed for budget conscious broadcasters. The basis of DVCPRO50 is two DV codecs running in parallel, doubling the coded video bit rate from 25 Mbit/s to 50 Mbit/s, with 4:2:2 sub-sampling instead of the 4:1:1 coding rate used in the original system, which is sometimes known as DVCPRO25. Using a higher data rate reduces recording time but picture quality is substantially higher, bringing comparisons with DigiBeta. DVCPRO50 has a high compression ratio, in the region of 10:1, but as this is done through a temporal method the result is a high quality image at lower bit rates.

Betacam SX and DVCPRO divided the ENG market but there was more upheaval to come as DV, DVCAM and MiniDV began to be used by more broadcasters. Next month the Video Guide will look in greater depth at these systems and the coming of both HD and non-tape camcorders.

news

Sony, Fuji, and Maxell have been fined nearly €75 million for fixing prices on professional videotapes over a three-year period. The European Commission (EU) declared that the three Japanese companies had run a cartel from 1999 to 2002, fixing prices on Betacam SP and Digital Betacam tapes sold in Europe.

Between them Sony, Fuji, and Maxell control over 85 percent of the professional videotape market, with SP and DigiBeta being among the most popular and widely used of video formats. The Commission report into the cartel stated that during the period investigated the companies "organised three successful rounds of price increases and endeavoured to stabilise prices whenever an increase was not possible".

The Commission's statement added that Sony, Fuji, and Maxell "managed to raise or otherwise control prices through a series of regular meetings and other illicit contacts". Three divisions of Sony were fined; Sony Corporation, Sony France SA, and Sony Europe Holding BV received a joint fine of €47.19 million ($68.74 million), which was increased from a lower amount by 30 percent because the corporate giant was judged to have impeded the investigation.

Fujifilm Holdings and Hitachi Maxell had their fines reduced by 40 percent and 20 percent respectively, to €13.2 million and €14.4 million, as these companies cooperated with investigators. "This decision sends two warnings to companies engaging in cartel activities," said European Competition Commissioner Neelie Kroes, "First, the Commission can prosecute cartels effectively even without prompts from immunity applicants; and second, obstructing a Commission antitrust investigation leads to severe penalties."

Sony is said to have only admitted its involvement in the cartel after being issued with a formal charge sheet by the Commission. In a statement Sony said, "We are very disappointed by the conduct described in the announcement, which involved a small number of employees located in Europe. While the details still need to be confirmed in the full text of the decision, Sony wants to make clear that it does not approve of or condone conduct of the kind described in the announcement. We are sorry that it happened and express our sincere regret."

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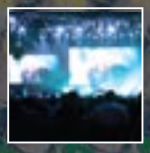

Mackie Onyx 24-4 **70**
STROTHER BULLINS puts Mackie's multi-purpose console's combination of attractive pricing, preamps, and EQ through its workhorse-like paces.

AMSR is the regular AUDIO MEDIA Sound Reinforcement section, aimed squarely at SR professionals across Europe. Following the *Audio Media* ethos, the emphasis will be on the product reviews and technical features written by working industry professionals that anybody in SR will find relevant and useful.

The largest assembly of QSC Audio products ever commissioned for a single project have been installed at Centre Parcs' new Le Lac d'Ailette holiday village in the French region of Picardie, where multiple water and land sport pursuits, convention centres, five restaurants, four shops, a nightclub, and 861 cottages are all served by QSC networking and sound reinforcement components.

www.shure.co.uk

www.qscaudio.com

Outline's Butterfly array system made its North American debut at ET Live, held during the LDI tradeshow in Orlando, FL on November 12-18 where the Italian pro audio product manufacturer had two hangs of 12 CDH 483 Hi-Packs, 16 Subtech 218 SP subwoofers, plus eight Mini-COM.P.A.S.S. COMpact Polar Adjustable Sound System (adjustable line array modules).

www.outline.it

www.morinproductions.com

Turbosound has appointed Erikson Audio as its new Canadian distributor. "Erikson Audio has over 25 years experience in the industry," stated Turbosound MD Simon Blackwood. "They handle a number of powerful complementary brands, and, being a division of JAM Industries, which owns our US distributor, American Music & Sound, this will make for a coordinated approach across the American continent."

www.turbosound.com

www.eriksonaudio.com

Soundcraft has expanded its GB Series of consoles with the introduction of the GB2R, a 19-inch rack-mountable affair designed specifically for smaller installations or small portable PA systems, and available in 16:2 and 12:2 variants, each having six auxiliary sends. Both feature the GB30 mic pre-amp and GB30 EQ designs found on the larger GB4 and GB8 consoles.

www.soundcraft.com

VENUE Ships Aplenty

Digidesign ships 750-plus VENUEs worldwide

Californian-headquartered digital audio production system manufacturer Digidesign recently announced that it had shipped over 750 of its state-of-the-art live sound production environment, VENUE, affirming it as one of today's most in-demand digital live consoles.

Recent users include veteran engineers David Morgan and Brian Hendry who recently worked together on Stevie Nicks' Crystal Visions tour, featuring dual VENUE D-Show mixing consoles, with Hendry handling monitors while Morgan took care of FOH duties. "No other digital console gives me access to so much information on each screen, and the large size of the display also makes operating in the dark a breeze," the latter commented. "From the patchbay to the outputs, this is the easiest system I have employed for getting a mix show ready. In short, I feel VENUE is the best-sounding digital platform. I'm able to use separate reverbs for vocals, acoustic guitars, keyboards, drums, percussion; I also have separate pitch changers on lead vocals and background vocals, as well as three different delay devices; I employ a variety of compressors on all of the melodic instruments – try doing that with a sound company's rental stock and still stay within the constraints of a modern production budget!"

American alt-rockers The Goo Goo Dolls have also been benefiting from Digidesign's VENUE concept, still touring the world in support of their 2006-released eighth album, Let Love In. For FOH, engineer/mixer Paul Hager brought in a VENUE D-Show console with two 16-fader D-Show Sidecars to provide instant access to the band's mix across 40 input faders while also making use of the full processing compliment of five DSP Mix Engine cards to support various TDM plug-ins. Meanwhile, monitor engineer Robert Windel uses a VENUE D-Show Profile, revealing, "I changed the rig from a [Midas] Heritage 3000 with tons of outboard gear to the Profile with no outboard gear."

Digidesign UK and Ireland

+44 (0)1753 655 999

Digidesign (HQ)

+1 650 731 6300

www.digidesign.com

Midas' Double Whammy

Revitalised Scottish pop combo Deacon Blue's recent UK tour provided a first for Midas Consoles when the manufacturer's flagship XL8 Live Performance System's console was deployed on both FOH and monitoring duties.

Having taken delivery of the XL8s only days before the tour began, Scottish rental company EFX spokesperson John Ramsey explained, "We needed something to replace the XL4, and went down to Midas under the impression that we couldn't justify having a desk like the XL8. The more we listened to the guys at Midas, the more we felt it would complete our PA system; on the journey back we decided to get one, then after a few days we changed that to two. It's the finest-sounding console I've ever heard – analogue or digital. There's nothing out there that compares to its audio quality."

Deacon Blue's FOH engineer Dave Pringle concurred: "I've really noticed the amazing audio quality, particularly on condenser mics and overheads – things that sparkle. I bring the faders up and it just comes back really clearly."

Midas Consoles

+44 (0)1562 741515

Midas USA

+1 952 736 4031

www.midasconsoles.com

Meyer's MILO Flies Around The World

MILO High-Power Curvilinear Array Loudspeaker proves popular

Californian high-quality, self-powered sound reinforcement loudspeaker manufacturer Meyer Sound Laboratories' MILO High-Power Curvilinear Array Loudspeaker has been proving popular with sound rental companies and artists alike.

Tony Villarreal, founder and President of Taylor, Michigan-based Thunder Audio was an early adopter, upgrading his company's inventory back in 2004 to compete for bigger tours. "MILO has everything," commented Vice-President Paul Owen, who just so happens to double up as heavy metal monsters Metallica's longtime crew chief and monitor engineer. "It's got all the fidelity, plus it's quick to hang. They also stay rugged as they come."

Meanwhile, legendary US heavy-rockers Aerosmith recently performed its first concert in India at Bangalore Palace with a Meyer Sound system comprising two front line arrays, each including two MILO 60 High-Power Narrow Coverage Curvilinear Array Loudspeakers, MILO High-Power Curvilinear Array Loudspeakers, and one MILO 120 High-Power Expanded Coverage Curvilinear Array Loudspeaker, courtesy of Bangalore-based Reynolds Sound and Lighting Services.

Over in the UK, 70s US heartthrob Donny Osmond performed a series of dates with rental company Major Tom supplying a Meyer Sound system including two arrays of 15 MILOs and one MILO 120 per side.

Yet more MILO loudspeakers saw action in the UK and Ireland when Kanye West's Glow In The Dark tour visited London, Belfast, Dublin, and Manchester with London-based Canegreen bringing along two supportive arrays of MILOs and MILO 120s. Commented Canegreen founder Yan Stile: "The MILO's power and tight focus is a great complement to the M3D [Line Array Loudspeaker], and there's a consistency between the MICA [Compact High-Power Curvilinear Array Loudspeaker] and MILO that allows for a nice, smooth transition when you move from the main array to the side fills. Honestly, who could ask for more?"

Meyer Sound
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www.meyersound.com

Trantec Works Out With S5

Surrey-based RF solutions specialist Trantec has launched its new S5 system. Specifically designed for aerobics instructors, courtesy of the headworn SJ66 sweat-proof microphone with a flexible gooseneck (available in black, blue, and yellow), two formats are available: the S5.3LH operates up to 12 simultaneous channels, while the S5.5LH caters for larger projects, and is capable of operating up to 24 channels with a wider choice of frequencies with fully-interactive PC monitoring. Both benefit from high-quality, true-diversity operation utilising credit card-sized belt-packs, frequency autoscan, in-built Infrared datalink, 10-hour-plus single AA battery-driven lifespans, intuitive LCDs, and metal enclosures for both transmitter and receiver. An optional super-lightweight TS22 headmic is also available for those favouring a unobtrusive low profile.

Stated Trantec Sales Executive Mark Parkhouse: "Improper headmics can cause discomfort and irritation, and will detract from the quality of the class performance. Our aim is to provide a system that engenders comfort, quality, and a long trouble-free working life over many years."

BBM Electronics Group
+44 (0)20 8330 3111
www.trantec.co.uk
RF Productions NY
+1 516 767 2903

Audio Ltd has (temporarily) reduced the price of its miniTX wireless transmitter — compatible with all receivers from the Buckinghamshire-based company's RMS2040, RMS2020, and Envoy ranges — throughout January 2008 from £995 to £875 (plus VAT). The miniTX comes complete with clear antenna, SwitchIR (infrared key-fob remote control), belt-clip, and two soft pouches.

www.audioltd.com

Studer's new Vista 5 SR digital live sound console recently made its UK debut in a FOH capacity at LIVE07, two sell-out concert spectaculars hosted at London's O2 Arena to celebrate the centenary of The Scout Association. Commented Concert Sound mix engineer Simon Wooler: "It feels like a digital desk, but it doesn't feel like I'm making a big leap from what I'm used to in analogue terms."

www.studer.ch
www.harmanpro.com

Japanese classical music venue Tokyo Bunka Kaiken recently upgraded its smaller hall's sound system to include four Lab.grupped C 16:4 400W-per-channel (at 8Ω) amplifiers. According to distributor MTC Japan's Chiyomi Koshinaka, "One of the most important features for this application was that the C 16:4 is capable of handling both high and low impedance loads at the same time via just one switch per channel."

www.labgruppen.com
www.tcelectronic.com

FOH engineer Dave Bracey has been road-testing DiGiCo's Version 4 software on Mika's Live In Cartoon Motion tour, utilising a D5 Live digital console for both mixing and recording each show (via MADI to a Metacorder). "I would describe Version 4 as a refinement," he concluded. "Not so much in the mixing, but in the mechanics – the housekeeping features."

www.digico.org

Bollywood dancers Shamak Dawar Group.

PALME India Success Mirrors Economic Boom

The second *PALME India* show in Mumbai consolidated last year's inaugural event by registering a 25% increase in visitors at the Bombay Exhibition Center recently. JIM EVANS reports.

Acknowledging the rapid technological evolution in the sub-continent, the organisers IIR Exhibitions took the decision to extend the show for an additional two hours on the final day, and a flurry of late business saw Arun Kalra's RK International take a large order for a Martin Audio W8L 'Longbow' line array system – the first to be sold in the north of the country.

Three line array speaker brands – Martin Audio, Nexo and Ohm Industries – all took full advantage of showing their muscularity outdoors with a series of sound demos.

James Raffoul and Sanjay Handa.

RK maximised the Martin Audio system by using Powersoft amplification (represented at the show by Luca Giorgi) and Dolby Lake processing (represented by Craig Lovell). These are two brands rapidly enjoying an increasing presence on the world map.

Sun Infonet Pvt, the Nexo distributors, fielded two hangs of the GEO-T system and were just as enthusiastic. "People like to listen out of doors, and we have seen a lot of industry professionals." declared Neeraj Chandra, Director of Operations.

Ohm Industries provided the third demo in the natural environment and MD Jo Olenski welcomed the chance to further strengthen a brand that has a huge foothold in the Mumbai market, with its Lunaray. Ohm has already installed its TRS PA system in Poison – voted the best club in India – and can be seen in eight of the top ten nightclubs as voted by the Times of India. Ohm's business in this territory is growing so fast in India that Lalit Chopra, their agent with Harness Overseas Pvt, has now set up a dedicated company.

Another loudspeaker giant, Meyer, was also represented at the show – and looking to take advantage of the huge Bollywood market in Mumbai to mirror their success in the Hollywood film theatres.

Meanwhile, d&b audiotechnik were on the stand of their distributors, Rohit Paul's long-established Paul Movies.

You didn't have to look far for enterprise at PALME India.

One eloquent voice was that of Harman's country head, Sushil S. John, who emphasised that as larger touring acts increasingly appear in the sub-continent, so rental and staging companies need to be able to respond to rider requirements.

"The growth in the market generally has been phenomenal; Harman Pro has quadrupled its turnover here in the last two and a half years while the dealership base has increased in line with the economic boom in the country, particularly in malls and multiplexes," he said.

Dinesh Mandot of Vardhaman, the Harman Pro distributors, agreed that the show had proved to be an excellent vehicle for them to reach the DJ and rental markets, and indeed the DJ market was also well represented by Rivera International. In addition to establishing the Lab Gruppen pedigree in a market beset with cheap copies from the east, they also look after Pioneer and annually sponsor the World of DJ's competition, which visits a number of cities in India.

With the biggest stand at the show, Modern Stage Service showed the might of their touring products. Observing the increase in numbers this year, Director Varinder Wadhwa reported that Modern Stage Service had again enjoyed a fantastic show.

Modern also had the imagination to show their technology in a working environment, by presenting regular shows by leading Mumbai choreographed Bollywood dancers, Shamak Dawar Group.

Varinder and his brother, Davinder, were just two of a number of professionals who proposed that after two years in Mumbai, PALME India should consider a location change to New Delhi in the north for 2008 - citing an improved exhibition infrastructure, and the enormous development opportunities offered by the fact that the Commonwealth Games will be staged there in 2010.

Finally, Florian van Hofen, head of German professional trade association VPLT, stated that last year German manufacturers had attended in search of distributors, and companies such as Kling & Freitag had been successful, appointing Rivera International. Like many others, he believes you ignore emerging markets such as India at your peril.

Varinder and Davinder Wadhwa.

And that is the message being hammered home by IIR Exhibitions' show organiser James Raffoul and his Indian representative Sanjay Handa, as the country's economic boom and technological infrastructure continue to accelerate exponentially.

As to whether a relocation to New Delhi in 2008 is viable… the jury is still out.

MEDIA MATTERS

Broadcasting in India has flourished since state TV's monopoly was broken in 1992. The number of channels is still growing.

Privately-owned cable and satellite stations command large audiences. Star Plus – run by News Corporation – is one of the most popular. Its version of the game show *Who Wants to be a Millionnaire?* proved to be one of the channel's biggest draws.

News broadcasts are also popular, often outperforming entertainment shows. Many 24-hour news channels are up and running, and more are planned.

Doordarshan, the public TV service, operates 21 services including its flagship DD1 channel, which reaches some 400 million viewers.

Two multi-channel, direct-to-home (DTH) TV operations – the Zee Group's subscription-based Dish TV and a free-to-air offering from Doordarshan – are recent arrivals on the satellite scene. A third DTH venture, Tata-Sky, launched in August 2006.

India's cable TV market is one of the world's largest, with more than 60 million subscribers.

Private radio is a relative newcomer. Since they were sanctioned in 2000, music-based FM stations have proliferated in the cities and hundreds more licences are up for grabs. But only public All India Radio (AIR) can broadcast news.

VITAL STATISTICS

FULL NAME	Republic of India
POPULATION	1.1 billion (UN, 2005)
CAPITAL	New Delhi
MOST-POPULATED CITY	Mumbai (Bombay
AREA	3,287,590 sq km / 1,269,346 sq miles
MAJOR LANGUAGES	Hindi, English, and at least 16 other official languages
MONETARY UNIT	1 Indian Rupee = 100 paise
MAIN EXPORTS	Agricultural products, textile goods, gems and jewellery, software services and technology, engineering goods, chemicals, leather products
GNI PER CAPITA	US $720 (World Bank, 2006)
INTERNET DOMAIN	.in
INTERNATIONAL DIALLING CODE	+91

Presented by
Munro Acoustics Ltd
www.munro.co.uk

Cheers India Comes To Hyderabad

Having achieved great success scoring Bollywood blockbuster movies, Indian musical group Shankar-Ehsaan-Loy's star continues to rise in the world of mainstream pop music, thanks to their chart-topping fusion of Indian classical styles with western pop sensibility, musical virtuosity, and a stunning live show.

The trio, comprised of Shankar Mahadevan, Ehsaan Noorani, and Loy Mendonsa, brought their Cheers India tour to the Hitec Grounds in Hyderabad, where the 10,000-strong audience enjoyed the show via an Electro-Voice, Midas, and Klark Teknik sound system deployed by Acoustic Control PVT Ltd. of Bangalore. S.E.L Engineer Ashish Saksena mixed the show, with systems engineering support from Sanjay Mudartha of Acoustic Control.

"The EV XLC line array rig was set up using EV LAPS (Line Array Prediction Software), which was bang-on with its coverage, prediction, and fine tuning," says Mudartha. "Equalisation was achieved via a tablet-based Smaart Rig with a WiFi link to Klark Teknik Helix EQs. The FOH position was about 100 feet from the stage and the venue was about 350-feet long; the XLC system delivered consistent, even coverage throughout the space, with loads of headroom. It had plenty of power for that "in your face" feel! Our primary concern was to provide Ashish with a smooth, hassle-free experience, allowing him to concentrate on the mix rather than the gear, to get the band's sound exactly the way they like it. I think we achieved that."

Band Engineer Ashish Saksena commented: "The show was excellent, both technically and crowd-wise; S.E.L and their band said it was the best-sounding show of the entire tour. The setup was smooth, and the Midas Legend and EV XLC system sounded great."

Records Broken In Shillong

The regional capital of Shillong, in Meghalya state, has recently hit the headlines for propelling local singer Amit Paul to the title of Indian Idol. The city's musical reputation is now firmly in the record books, after it hosted a massive outdoor concert at which more than 1,700 guitarists joined together to play Bob Dylan's classic *Knocking on Heaven's Door*.

This unusual concert took place on the first day of Meghalya's Festival of Rock, which organisers intended to be nothing less than "the biggest-ever rock show in the country." Amit Paul was on stage to open the festival, backed by Moonwind, an experienced local band from Assam. But the star attraction was a show by American rock band Mr Big, fronted by singer Eric Martin.

Staged in the Jawaharlal Nehru Stadium, Mr Big's concert attracted 20,000 people. PA company Delta Sound brought its newly-acquired Nexo Geo D Series tangent-array system, needing to fly just six cabinets a side to handle the main audience (delay towers located 75 metres back from the stage took up the rest of the crowd.)

Controlled by a Nexo NX242 digital processor with additional ES4 card to provide EtherSound functionality, the system was powered by Camco Vortex 6 amplifiers, with bass from ten 18" subs. The show was mixed out front on an Allen & Heath GL4800, with monitor mixes going through a Soundcraft desk.

Nexo's Indian distributor Sun Infonet supplied the Geo D10 cabinets and processor to Delta Sound, and Technical Services Manager Shiraz Bhardwaj was in Shillong to oversee the big concert debut of the new boxes and act as system engineer. "This was a prestigious event, held in a huge venue, so it was satisfying to hear that Mr C.L Para, the owner of Delta Sound, and Mr Aaron, the band's sound engineer, were both very happy with the sound. The SPL from the D10s carried comfortably to 75 metres from the stage, which is where we erected delay towers for the back of the stadium."

Allen & Heath Links With Suninfonet

UK mixer manufacturer, Allen & Heath, has appointed SunInfonet as its exclusive distributor in India. The company will manage the sales, distribution, and service of the complete Allen & Heath product line from its HQ in Delhi.

"The audio market in India has grown dramatically over the past couple of years resulting in an increasing demand for more sophisticated AV systems and higher end professional products. Consequently, it made sense for us to appoint SunInfonet, who has been one of our key dealers in the region for some time, and are very knowledgeable about our products," comments Allen & Heath's Sales Director, Bob Goleniowski.

"SunInfonet already distributes Shure, Camco, and Nexo products, so the addition of Allen & Heath has strengthened our portfolio. We are very pleased to be representing the brand, which is well known in India, and our appointment means we can offer a complete sales support channel in India," comments SunInfonet's director, Neeraj Chandra. "Due to the wide range of mixers on offer, we will be able to meet the requirements of all our customers, and we intend to work closely with our system integrators particularly on the iDR Series."

Following the appointment, Allen & Heath and SunInfonet held the first in a series of training seminars to provide an in-depth introduction to Allen & Heath's products. The three day event provided comprehensive product and technical sales resource training to SunInfonet's dealer network, involving presentations and demonstrations on every key Allen & Heath product, with special emphasis on the iDR contractor/installation series, the iLive digital console, and the new ZED series.

L-Acoustics At Bangalore Festival

Bangalore-based V-Dosc Partner J Davis Prosound & Lighting provided a V-DOSC system on the occasion of the Mysore Utsava Festival.

This cultural event featured over 300 performances from artists such as Kunal Ganjawalla, Shreya Goswal, Shaan to Udit Naraya, just to name a few. Each day saw a crowd averaging 10,000 spectators with an audience culminating at 15,000 on the closing day of the festival. The sound system consisted of 10 V-DOSC per side and eight ARCS.

The National newspaper *The Hindu* reported: "Both sound and lighting systems were top notch and they brought a tremendous contribution to the general atmosphere of the festival, and definitely enhanced the listening pleasure of the audience."

GRAND REUNION

LED ZEPPELIN LIVE

December 10, 2007, saw three-quarters of the legendary Led Zeppelin line-up proving they still had what it takes to rock an arena in their first full concert since 1980 at the O2, London. JONATHAN MILLER goes behind the consoles with well-known FOH engineer 'Big' Mick Hughes and Fleetwood recordist Tim Summerhayes.

'Can you get Robert a desk?'
'I'll get them to do that for you; what do you want it for?'
'You know that Led Zeppelin thing?'
'Yeah; are you doing it, like?'
'Yeah, but it looks like I'm going to have to have Robert's vocal on one desk with all its effects, and then send the output of that desk to another guy who's mixing the band, and he'll put that in his desk, because he won't let me on his desk!'
'Alright, then... if that's the plan. Well, I'm around. If you want me to do it, then I'll do it with you.'

So begins the tale of how Metallica's renowned FOH engineer, 'Big' Mick Hughes, found himself standing behind a Midas XL8 live performance system in London's O2 Arena on December 10, 2007, mixing three-quarters of legendary rock icons Led Zeppelin – namely, guitarist Jimmy Page and bassist/occasional keyboardist John Paul Jones, with Foreigner drummer Jason Bonham standing in for his deceased father, John Bonham – while fellow engineer Roy Williams handled vocalist Robert Plant on the same console amid a media-frenzy surrounding one of the most eagerly-awaited reunion concerts of all time.

A Ticket To Heaven

As announced during a September 12 press conference by premier promoter Harvey Goldsmith, Led Zeppelin was set to headline the O2 Arena-hosted tribute concert for the late Ahmet Ertegun – Atlantic Records founder, and much-missed mentor to some of popular music's greatest names, including, of course, Led Zeppelin – with all profits going to the Ahmet Ertegun Education Fund. The fund provides students with annual scholarships to universities in the UK, USA, and Ertegun's country of birth, Turkey, as well as a music scholarship open to all being established at London's Ravensbourne College of Design and Communication. Commendable stuff. And with 20,000 tickets priced at £125 apiece for this 'one-off' O2 Arena show, profits aplenty were pretty much guaranteed – all the more so when it was also announced that due to an anticipated overwhelming demand, tickets would be made available by ballot only, with interested parties being invited to register their names via a dedicated website for random selection. Again, due to an anticipated overwhelming demand, tickets would be limited to two successful applicants per household.

Hughes gets down to Earth(works).

Predictably, perhaps, the website exceeded its bandwidth allowance and crashed almost immediately following the announcement; as it was, overwhelming demand proved to be something of an understatement here as it received an amazing one billion page impressions with – depending on whose estimate is to be believed – somewhere between 20 million and 200 million people attempting to avail themselves of those tickets. According to Meyer Sound, which later played an audible part in the proceedings, "...a 25-year-old Scottish man was rumoured to have paid $170,000 for a pair at a charity auction."

Make no mistake. Those Led Zep boys sure are popular, as one might expect from a group whose worldwide album sales currently swan around the 300 million mark (and rising).

That's all well and good, but the burning question remained: could they still cut it onstage? Expectations for the O2 performance no doubt rose another notch nearer to fever pitch with the long-awaited November 20 launch of the official Led Zeppelin website. Visitors clicking on its unassuming 'Reunion, London 12.10.07' link were met with a wailing of an air raid warning siren as an arty aerial view of the O2 Arena itself fades into a nostalgia-inducing sepia-tinted colouration, before the shadow of a overhead zeppelin looms into shot, finally casting itself over the O2's distinctive dome like a scene from an *Independence Day*.

The concert was subsequently postponed until Monday, December 10 due to 63-year-old Zeppelin guitarist Page fracturing his left hand's little finger having reportedly taken a tumble in ►

Led Zeppelin's 16-song set list – 'scrabbling' unscripted!

his garden.

Come the night before showtime, even the usually far from flummoxed 'Big' Mick Hughes was still feeling pressure to perform. "It's very difficult to just go in for a one-off," he reasons, "I've never done a show as stressful as that, and I've done some pretty big shows – a million people in Moscow [with Metallica] wasn't as stressful as doing this thing! It was just, like, 'Wow!', and I'd be lying if I said any different; even just standing outside my hotel the night before chatting to some guy... I think he said his ticket was either five or 10 grand! I've been talking to lots of people who've paid this kind of money... it was more than just a show. It was a spectacle."

When Mick Met Roy

The road to staging the spectacle was a fairly long and winding one. Hughes explains how he landed the great gig on the ground thus: "...I met and had a word with Qprime – the management company I work with for Metallica, who also manage Jimmy Page. Jimmy had been to see Metallica at Wembley Stadium (on July 8, 2007), and thought it sounded good, so that gave me the 'in' there."

Interestingly, Metallica's Sick Of The Studio '07 tour just happened to be the first time that Midas 'evangelist' Hughes had taken the new XL8 live performance system on the road, so it's little wonder that the same console ended up being used with Page & Co once Hughes' well-tuned ears had been brought to bear on resurrecting that legendary Led Zeppelin sound onstage – not least that its inherent flexibility allowed him to work alongside Williams without needing a second FOH console. "It was perfect," Hughes notes, before revealing: "In all fairness, I did an analogue spec at first – XL4, obviously... gates and various compressors for different jobs was the initial plot; effects were a bit of an unknown quantity at that stage – obviously, there'd be the statutory reverb machines, but I didn't know if we'd need anything special. It turned out that we needed flangers and phasers, plus a plethora of different reverbs and stuff, so it's a good job we didn't go that way, because it pretty much all changed. I ended up with probably nigh on 70 input channels – admittedly, probably only 34 or 36 of those was the band, and the rest was effects returns, but it just swelled sidewards; so, fortunately, with the flexibility of the XL8, it wasn't suddenly a case of, 'Oh, shit; we need to get another desk!' The XL8 came into its own when everything was changed around on different things, so we could literally just re-program the effects rack.

"Of course, being able to recall a pop group into the B area on the console meant that we could set the end bay of the console to be Robert's vocal and his effects returns, so Roy could have his own pop group at the end while I used the rest of the console with the VCAs to do the band."

This ostensibly unusual way of working begs a rather obvious question that Hughes himself brings up when addressing that potentially divisive two-man operational issue: "I've known Roy for probably 20-25 years, and people keep asking the question, 'What's it like to have dual engineers, so-to-speak?' But because I've known Roy for so long – he's 60 years old and I'm 50, nearly – I know what he's done, and he knows what I've done, so there was none of that chicken strutting 'round shit scenario. I had nothing to prove to Roy, and he had nothing to prove to me. We were there to do a job, and we both just got on with it together. We never once argued about it – fantastic, really. I do wonder how it would have worked if it was two people who didn't know each other."

Grace Under Pressure

While Williams and Hughes were clearly committed to making their console-based marriage work for the benefit of all – not least Led Zeppelin, ironically it was actually that elusive Led Zeppelin sound that was to prove problematic for Hughes: "That, there, is the one question that created a big dilemma, because were we talking about the 1970s or about 2007? At the start, I really didn't know which way it should go. I listened to loads of bootlegs; I listened to the albums. They had a unique sound, but I think some of that unique sound was thrust upon them by the period in which it was recorded – the limitations as to what equipment could do, so it begged the question: does it want to be now?"

VIEWS FROM THE OUTSIDE • TIM SUMMERHAYES ON RECORDING LED ZEPPELIN LIVE

"Two or three months ago I got a call from the office saying that someone's enquiring about the Led Zeppelin show, so I thought, 'Christ! It would be really good to do that', thinking we wouldn't stand much of a chance. I made a couple of phone calls myself, and it became apparent that they wanted us to do it, which I was quite pleased about, really."

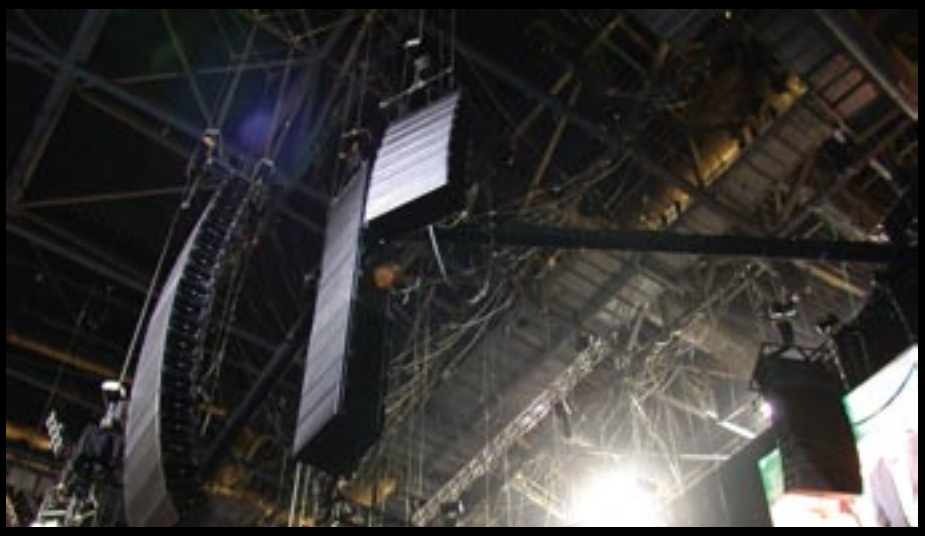
So says Fleetwood Director Tim Summerhayes, who, come December 10, 2007, was parked up outside the O2 Arena, sat inside Fleetwood One, his live concert recording and audio post-production for broadcast company's flagship mobile truck – equipped with a digitally-controlled 96-input Euphonix CS2000 console, charged with capturing and committing 48 tracks of uninterrupted Led Zeppelin performance at 24-bit/48kHz to iZ Technology's RADAR (master) and Merging Technologies' Pyramix (safety) formats. No pressure there, then.

"Technically, it's a very straightforward operation," claims Summerhayes. "Mick proposed his channel list, we looked at it, and it was absolutely fine. We made just one alteration during the soundcheck; Mick decided to use a couple of extra overheads on the drum kit – higher than regular overhead mics by a couple of feet, so we just opened them up slightly to make it a wider stereo image, but it was no big deal."

But recording Led Zeppelin's first full-length show since 1980 was a big deal indeed – so much so that Summerhaye's recording media was signed off soon after the venue's house lights came back on: "We were told specifically that we were recording it for archive purposes, and they were taking the masters away at the end of the show and just putting them in storage. To my knowledge, there are no positive plans for it to ever see the light of day, but let's hope it happens."

To that end, Summerhayes adds, "We had to capture the audience; we knew it would be quite riotous, and we knew it was going to be full, so we had 24 cables in the roof, and we used most of those, as well as our normal array along the stage, and we sub-mixed those to eight tracks, which was basically the available tracks that we had left at the end of the split. We thought that regular 5.1 might not be sufficient in a few years' time, so they've got eight tracks to play with."

And with producer/director Dick Carruthers simultaneously shooting the show in high-definition, perhaps Summerhayes' recordings may yet be called upon one day, after all. "We produced a workable listening track for them, but that was never intended to be used for anything other than a guide mix," notes Summerhayes, before changing tact slightly: "It's being put in a vault somewhere, to be looked at again at some stage, but whether I get a sniff at it, I don't know. I'd love to, but it will probably go to the Jimmy Page camp. I stand to be corrected, but I think it's Jimmy's band; he's the one who keeps the whole thing going.".



Well hung... Meyer's mighty MILOs ensured Zeppelin was heard as well as seen

What to do? Well, Hughes did what he could, striking up a direct dialogue with the band itself: "We talked about it, but when you're so close to the wood, can you see the trees? I don't know if they really had a vision on how they should play out. We played around with lots of different sounds and stuff in rehearsals, trying out different techniques – alien to me, some of them. I come from a world where it's all close mic'd, and everything's gated and tidy; it works, and that's how we keep the big arena and stadium sounds clean. Then, all of a sudden, you're into another world with Led Zeppelin, because you're into a more ambient sound."

Little wonder, then, that Hughes admits to feeling some pressure! "I was in a lose-lose situation, because literally everybody has an opinion on how Led Zeppelin should sound," he rationally reasons. "It's very difficult to mix something when you haven't firmly got the picture inside your head as to what it should sound like because you keep getting pulled in different directions by everybody's attitude to it. In the end, we decided that this had to be Led Zeppelin with technology; had Led Zeppelin continued to play for the last 27-odd years, then this is really what they would have come to."

That being said, in-ear monitoring was duly denounced. "They're not interested in any of that kind of stuff," states Hughes, humorously adding: "That part of the plot was still pretty 1970s."In the event, monitor engineer Dee Miller mixed on a Midas Heritage 3000, having specified a Britannia Row-supplied Turbosound system comprising 11 TFM-350 high-powered, full-range wedges (incorporating twin 15-inch drivers and a two-inch compression driver in a 42° angled enclosure) for general stage coverage; a pair of TFM-450 high-performance, bi-amped wedge monitors (featuring a custom 15-inch neodymium LF driver and a three-inch diaphragm neodymium HF compression driver on a 40° x 60° horn) for Page; another pair of TFM-350s for Bonham; plus six Flashlight mid-highs per side for sidefills.

The Song Remains The Same?

Little was being left to chance, so it was that back in July Hughes first found himself getting up close and personal with Led Zeppelin on a rehearsal stage within West London's Black Island Studios, the band having already had "a little knock" in June to find out if they could still play together before they actually got everybody's hopes up.

Initially listening back via two crystal clear Genelec 1037 active three-way monitors at Black Island, and armed with his trusty Midas XL8 and an accompanying Klark Teknik DN9696 AES50 Multitrack Recorder well in advance of its official release, Hughes set about mastering those Led Zeppelin sounds, paying particular attention to recreating John Bonham's distinctive drums, one of the band's unmistakable trademarks. Bonham Snr's pounding drum part recorded in a three-story stairwell that opens 'When The Levee Breaks' (1971's *Led Zeppelin IV* album) remains one of the most sampled drum breaks of all time. "I tried gates on the toms at the start, and completely failed," freely confesses Hughes. "I tried using external triggers taped to each shell to fire the gates; that kind of worked, but it sort of failed, because at some point you would hear a gate. It became pretty apparent that I would have to do it with no gates, so the gates all went. Then it was just a case of working with the overspill of all the different drum mics and stuff; again, that's where the XL8 came into it's own, because we had the new 9696 recorder – the SADiE one that they've conjured up for virtual sound-checking."

Here Hughes' equipment of choice was very much screaming 2007. "That was viciously beaten on," he semi-seriously jests, before virtually launching into a crash course on the physics of sound. "It was taken way out of context to what it was designed for. Fortunately, it behaves very like a [Digidesign] Pro Tools system insomuch as you can zoom visually on the waveforms, so it gave us the opportunity to whack the snare and look at the screen to see how long it actually took before the snare arrived back at the overheads and different tom mics, and because the XL8 has a delay on every channel I could actually delay the drum channels; I had four milliseconds on the snare drum, so that the close mics were delayed four milliseconds, having taken the distant mics as being the zero reference, and delayed everything back to that so that four milliseconds of pushing the direct snare mics back made it all happen at once when you hit the ambients."

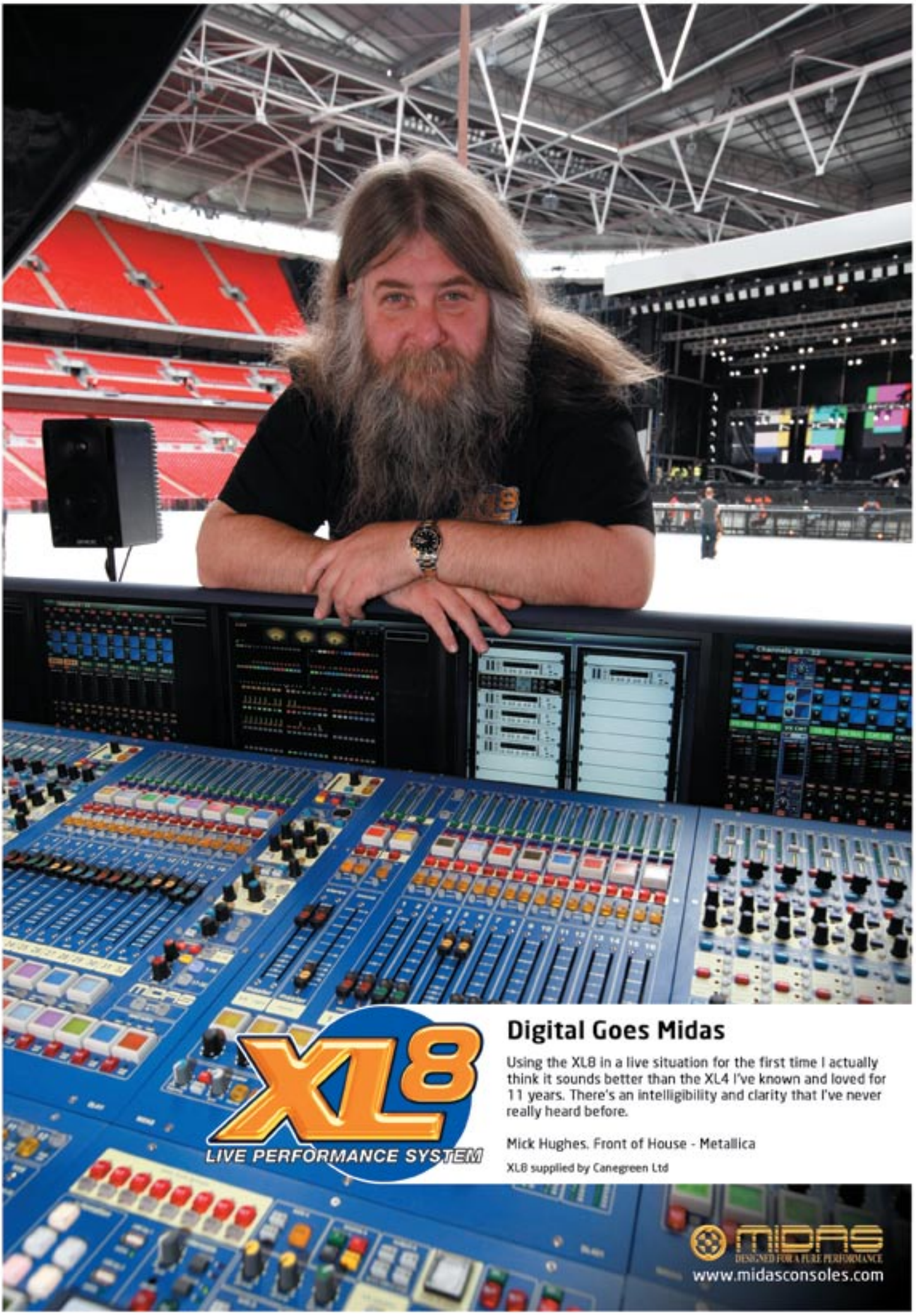
The result of which was? "It made it so much fatter; you didn't get all the phase cancellation," reports Hughes. "We then did the same thing with the tom-toms; they obviously had varying degrees of delay as well, but we're only talking milliseconds here – not taking a snare and putting it in the next song!"

The result of which was that John Bonham himself could almost have been sitting on that drum stool – combined credit where credit's due to 41-year-old Jason Bonham's impeccable drumming skills and the tenacious Hughes' finely-tuned ears, not forgetting the cutting-edge equipment being deployed to such devastating effect. Speaking of which, here's Hughes' low-down on the mics used thereon: "Predominantly, the drum kit was mic'd with Earthworks: the X-Y was two SR25s; the two overheads we used were SR25s; the hi-hat was an SR30; snare bottom was an SR25; snare top was a '57; I had an SR25 on the kick drum, which the KickPad had been plugged into to tailor the microphone to a kick drum sound; I also used another KickPad on the Beta 52 that we had in the hole of the kick drum, so they were both treated with the Earthworks plug-in 'Pad; the ride cymbal was a PC30, which is like a little gooseneck affair, which we could sneak under the bell; the timpani was another SR30; and then the tom-toms were Audio-Technica 350s, which are little goosenecks."

There you have it: instant Led Zeppelin drums. No need for samples. No sir: "I could have gated everything down; we could have even brought in some sampled drum sounds – fired some off the albums, even, but that would have been going for perfection, and I don't think it's about that. Led Zeppelin is an attitude more than a sound. The dynamics within the songs are fantastic, which is why you could never use gates... for the simple reason that they'll take it down to next to nothing and then they'll build it back up again from that within each song. It had to be all open and have this airiness about it – kind of a mixing pot."

It'll Be Alright On The Night

Following a week's worth of "trial and error" at Black Island Studios without any PA gear (and, amazingly, without Robert Plant, who was otherwise engaged in America with Roy Williams) production stepped up a gear when Plant (and Williams) regrouped with Bonham Jnr, Jones, and Page (and Hughes) at a larger sound stage within Shepperton Studios with a 'cut-down' PA comprising seven Meyer Sound MILO High-Power Curvilinear Array Loudspeakers per side, four flown subs, plus a couple of ground-stacked subs for a few run-throughs of the 16-song set before



Digital Goes Midas

Using the XL8 in a live situation for the first time I actually think it sounds better than the XL4 I've known and loved for 11 years. There's an intelligibility and clarity that I've never really heard before.

Mick Hughes. Front of House - Metallica

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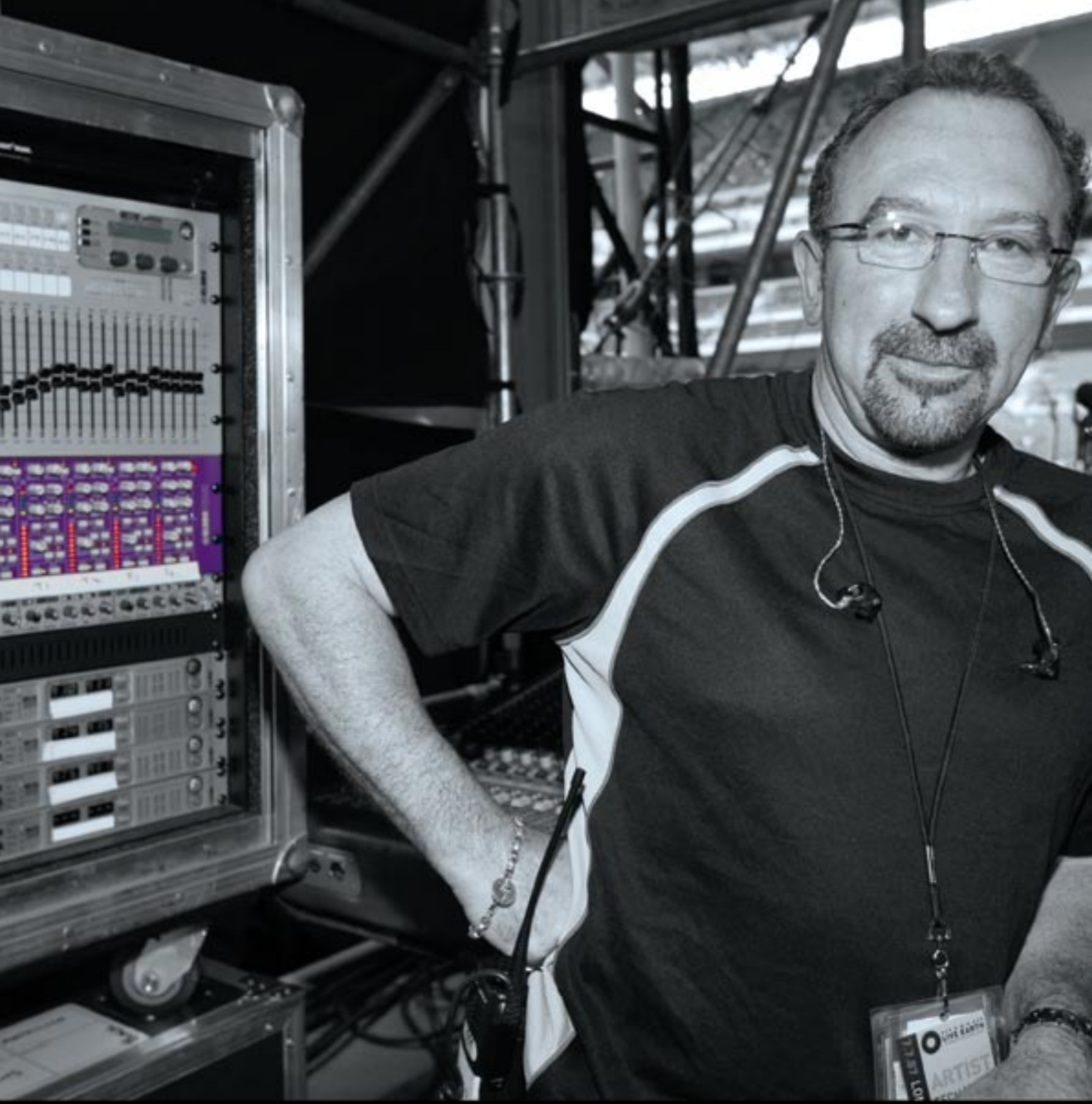

square one dynamics

' I've been using the SQ1D Gate/Compressor unit on Metallica's European stadium run and it has to be one of the best Gates I've ever used. To be able to monitor the side chain filter is yet another wonderful idea from Klark Teknik.'

Paul Owen - Monitor Engineer - Metallica

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moving on to the final destination.

Shepperton, too, was far from being an easy ride for Hughes. "All of a sudden, you've come off Genelecs and gone through a PA system, so there's a transitional thing there, because you're listening to PA boxes, as opposed to something that's designed to be a studio monitor. We made a few tweaks there, but it was still a slimmed-down system; we couldn't commit completely to stuff, because it was going to change again.

"Then we got into the O2 with the full-blown rig," continues Hughes – full blown being an amazingly powerful all-Meyer sound system supplied by UK-based sound rental company Major Tom, upping the ante somewhat with 72 of those high-flying MILOs, plus a centre hang of six MICA Compact High-Power Curvilinear Array Loudspeakers, with ten flown 700-HP UltraHigh-Power Subwoofers per side; nine more ground-stacked 700-HPs per side; four more MICAs per side for outfill; and another MICA per side alongside eight UPA-1P Compact Wide Coverage Loudspeakers strung across the stage for front fills. Three Galileo Loudspeaker Management Systems handled 36 outputs and Meyer Sound's Director of European Technical Support, Luke Jenks, used a SIM 3 Audio Analyzer System to tune the system to work with the O2 Arena.

On the face of it, this surely should sound stunning? Over to O2 first-timer Hughes for its final analysis: "Was I pleased with it? It's not as easy as I thought it was going to be. I'd kind of believed people that the room was going to be just stunning, and it wasn't quite like that. It kind of sneaked up on me a little bit, which was why I had to do a bit of scrambling and juggling for the first three songs to make it fit."

And as for that aforementioned dual-mixing scenario, was it alright on the night? "Even though we knew Jimmy would be doing guitar solos and stuff, the plan was to keep the vocal pretty prevalent," Hughes reveals. "The vocal effects were really down to what Roy wanted to do, so it was his bag. There were quite a lot of effects on the voice – if Roy was doing a long delay, Robert tends to go and stand by the drum kit, so I did have a couple of repeats coming through when the drums caught the echo or something."

So, job done, how does Hughes feel about it all after the momentous event? "Mmm," he muses, and then pauses. "The reason I go 'Mmm' to that question, is because people always ask me, 'What did it sound like?' Well, you can't really ask me that, because it's in the ear of the beholder. Everybody has his or her own idea, but I think it sounded great! As well as being a great rock band, they were always a really ambient band with some real twists, and I wanted to try and capture that."

Can't say fairer than that, now, can you? With post-O2 rumours of a possible Led Zeppelin tour spreading like wildfire, would Hughes consider taking up the mixing mantle again? "As much as Led Zeppelin is probably the coolest gig to do right now, Metallica are my guys. If it comes to it, and they came and asked me, then I'd consider it; but, from what I've heard all along, this was a one-off." AM

Midas XL8 on FOH duty – "16 was perfect" (Hughes).

MACKIE ONYX 24-4

4-BUS ANALOGUE MIXER

STROTHER BULLINS finds that this workhorse multi-purpose console offers great preamps and EQ at a price that can't be beat.

Mackie Designs is good at a lot of things. It's deservedly well known for good analogue mixers. Also, it's willing to sell these mixers at very reasonable prices.

The Mackie Onyx 4-Bus analogue mixer follows in this tradition, and features Onyx mic-pres, Perkins EQ, and an analogue stereo compressor/limiter (via a chip designed by THAT Corporation). It's a no-brainer for those who need a solid analogue desk comprised of affordable, good sounding components.

On Tour

The Onyx 4-Bus Series offers two models, the 24-4 and 32-4, whose only differences are in the total number of channels. The 24-4 has 20 mono channel strips and two stereo channels; the 32-4 has 28 mono channel strips and two stereo channels. I used a 24-4 in preparing this review.

The 24-4 measures 31.2 inches by 21.9 inches by 7.3 inches, and weighs in at 39.5 lbs. Power consumption is rated at 100W. Its steel chassis is solid and offers well-placed, recessed handles at either end.

Each mono channel offers a mic and line input connector and insert jack for the connection of external processing. Starting at the top, there's a -20dB pad switch; a high-pass switch at 100Hz; a 48V Phantom Power switch; and a rotary gain knob (unity to +60dB) for the mic pre (more on this later).

Next, the Perkins four-band EQ (per mono channel) EQ section. The HF knob allows +/-15 dB adjustments at 12kHz; the High Mid and Low Mid EQs offer the same amplitude range plus frequency sweeps of 400Hz - 8kHz and 100Hz to 2kHz, respectively; and the Low EQ knob offers is fixed at 80Hz. There's also a EQ bypass for each channel.

Each mono channel offers six pre/post-fader aux sends, pan, mute, and a Panasonic 100mm fader. At the very bottom of the channel is a PFL Solo button with green LED. On the right of the fader, four small LEDs indicate channel signal level after gain and EQ. Finally, three rectangular buttons for buss/main mix assignment (1-2, 3-4, Main Mix) are arranged vertically just below the signal level LEDs.

The 24-4's two stereo channel strips are similar, with changes amounting to a ±20dB gain knob and four fixed frequency EQ bands (12kHz, 2.5kHz, 400Hz, and 80Hz).

Next, at the far right of the desk, is the Matrix, Compressor, and Metering Section. In the long, skinny Matrix sub-section, 14 'infinity to max' knobs are arranged vertically in pairs, labeled A and B per seven, and are labeled GRP 1, GRP 2, GRP 3, GRP 4, Left, Right, and Master, each for the creation of separate mixes. At the bottom, two AFL solo buttons are paired with one LED indicator each. In the stereo Compressor/Limiter sub-section are three knobs and two buttons arranged vertically: Threshold, Ratio, and Limit settings; a Comp Assign knob switch for Main Mix, Group 1-2, Group 3-4, and Off assignments; and the buttons for Fast Attack or Bypass Comp (with LED indicator) selection. This section also features a multicolored 24 LED Compressor meter – 12 for input signal level and 12 for Gain Reduction level. Finally, a 24 segment multi-coloured LED Left/Right Level meter offers 12 LEDs per side. Also present are two Rude Solo LEDs (PFL and AFL) a quarter-inch headphone jack, 12V lamp connection, and a power-on LED.

The Phones/Monitor, Solo, Mono, and Talkback Section offers level adjustment knobs for Phones (at the stereo headphone output); Monitor output; Mono output; and Talkback levels routed to the AUX or MAIN L/R outputs. The Main To Mon button routes the stereo L/R Main Mix (post-fader to both Monitors and Phones outputs), and four buttons grouped as a TB Assign sub-section routes talkback to AUX 1-2, AUX 3-4, AUX 5-6, or Main Mix outputs.

The Auxiliary Section has six Aux Send Masters and two Stereo Returns featuring a level adjustment knob and a pre/post, AFL (with LED), and Mute (with LED) button per send. Both stereo return channels offer three knobs: one level adjustment per 1/3 and 2/4 returned signals (each with a shift button/toggle), and overall level adjustment per return. Also present per return is a PFL button with LED indicator. Above the two stereo returns is a CD/TAPE level knob with To Mon/Phones and Break (Tape To Main) buttons. When depressed, the Break button's LED glows a unique blue.

Finally, in the Group Section, four faders reside with the same signal level LED arrangement as the console's input channels. Per Group fader, a Mute switch, Pan knob, Main Mix assign switch, and AFL Solo Switch are available. On the far right is the Main Mix fader with a Talkback switch (and Talkback LED indicator) above it.

As you would expect, the Onyx 4-Bus's rear panel I/O is comprehensive. Each mono channel has a quarter-inch Insert, quarter-inch Line, and XLR Mic input; both stereo channels offer two quarter-inch inputs. On the far left, quarter-inch inputs are present as stereo Returns, stereo Main Inserts, four Group Inserts, and six AUX Inserts; quarter-inch outputs are available via stereo Main ▸

Outs, two Matrix Outs, stereo Monitor Outs, four Group Outs, and six Aux Sends. Very usefully, three DB-25 connectors offer 24 channels of direct outputs, ideal for inputting post-gain/pre-EQ signal directly to an external recorder/DAW. Three Main Balanced Outs (Right, Left, Mono) are provided via XLR. An XLR talkback mic input and Stereo RCA I/O is also available. Last, but not least, the rear panel's bottom left side provides the requisite IEC power connector and power switch.

In Use

Simply by analysing the above 'Features' section, it should be clear to all readers that this particular Mackie can sufficiently serve many masters and can be routed to do almost anything. Further, Mackie Designs is notorious for crafting pro audio gear with intuitive work surfaces, not to mention incredibly well written (but rarely needed) user's manuals. So, as a result, you really don't need me to tell you how easy this desk is to use.

However, I will note what I found to be its three most appealing features and why I think that anyone needing an mid-sized analogue mixer should consider the 24-4 over similar product on the market. First off, the Onyx microphone preamp simply stunned me. Over the past ten years, I have used all sorts of mic amps: big flagship console channel amps, esoteric/boutique standalones, cheapy 'it'll do' standbys and, of course, all those Mackie amps (the original Micro Series, VLZ, VLZ-PRO, and now, the Onyx). So, I'll have to say that this desk – featuring 20 of these Onyx babies – is a bargain considering the amps alone. They truly do rival amps that cost thousands of dollars more.

Second, if you do need some 'colour', look no further than down the same channel strip to the Perkins four-band EQ. It worked incredibly well for me, either as a surgical tool for removing offensive frequencies at concrete/cinderblock/beer-bottle club venues, or when using the Onyx 24-4 as a post-DAW studio mixer for drums, bass, electric and acoustic guitars, vocals, acoustic piano, and various synth-based tracks (all of which were originally recorded on location at 96kHz to an Alesis HD24XR via various pres –everything from Earthworks amps to the desk's own Onyx offerings). More than a half-dozen musicians in live, rehearsal, and tracking/mixing situations specifically commented on the complimentary sound of the Perkins EQ. One particular guitarist, who's used every studio EQ under the sun on his tracks, was amazed that we got what we did via the Mackie EQ.

Third, the stereo compressor/limiter in the master section sounds very good (or, more accurately, doesn't sound like anything, except subtle dynamic control when used with care). As we all know, good gear is made of good components, and it's assuring to know that Mackie took the initiative to incorporate a comp/limiter chip from THAT Corporation, a respected name in audio IC manufacturing.

Because of the affordable per-channel price point of the Onyx 24-4, I was never afraid to throw it in the back of a van or whatever I was traveling in. I find this to be an incredibly important quality in any affordable analogue mixer. After all, workhorse gear is of no use if it cannot take abuse, and ideally, such gear should perform as well as the gear that you wouldn't consider pitching around.

On this particular Onyx 24-4, one minor build flaw was present straight out of the box: its chassis wasn't square (i.e., it rocked on flat surfaces like a table with a slightly shorter leg). While annoying, it's far from a deal-breaker. Maybe this happened in shipping; you can't be sure. However, if that's the case, I would recommend that Mackie consider slightly sturdier packaging for its mid- to upper-cost mixers to prevent this sort of thing from happening in the future. Other than this, the build quality of the 24-4 is superb: no wobbly pots, no junky-feeling faders.

INFORMATION

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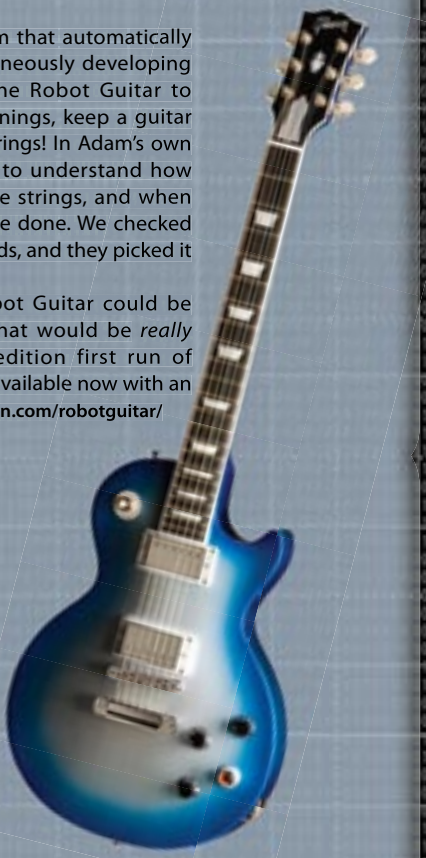
GUITAR FILE 1.1: Robo/tUnE07

December 3, 2007, saw London's Gibson Guitar Studio hosting the UK launch and live demonstration of the new Gibson Les Paul 'Robot' Guitar with Welsh rockers The Alarm's Mike Peters putting the innovative instrument through its paces before an assembled throng of press and public sneak-peekers. As implied by name, Gibson's Robot Guitar represents the world's first guitar with robotic technology; according to its maker, all one has to do is play it.

So what's all this robotic malarkey about, Alfie? It's no good asking Michael Caine – or Jude Law, for that matter! Inventor Chris Adams is best qualified to step up to the explanation plate, having taken 10 years to perfect the lightweight, and apparently foolproof auto-tuning system from which the resultant guitar took its name. Aggravated by traditional instruments' hitherto never-ending tuning process, Adams devised a system that automatically tunes a guitar in no time at all, simultaneously developing the robotic technology that allows the Robot Guitar to switch effortlessly between multiple tunings, keep a guitar perfectly intonated, and even change strings! In Adam's own words, "It takes less than two minutes to understand how to be in tune – pull the knob, strum the strings, and when everything on the display is blue you are done. We checked the guitar out with some nine-year-old kids, and they picked it up immediately."

Sounds great. Now, if only the Robot Guitar could be persuaded to play a tune by itself... that would be *really* cool! In the meantime, the limited-edition first run of Gibson's miraculous self-tuning guitar is available now with an MRSP of $2,499. **www.gibson.com/robotguitar/**



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Welcome

Welcome to Monitors 2008, an overview of the professional studio monitor market for the production professional.

This magazine is a collection of promotional articles looking at 10 of the world's leading monitor manufacturers and their product ranges. Inside you'll find the stories behind the drivers – the ethos' and design ethics that go into producing the one component in your studio that actually brings sound out from the boxes and widgets, and into the air – and details of the products themselves.

Monitoring provokes much debate, much passion, and possibly more subjective wrangling than any other node in the signal chain. Whether it's the box, the magnetics, the materials, the electronics, or the room that makes the difference, the term 'reference' is never used lightly amongst those who rely on hi-fidelity, accurate and natural voicing, spot-on transients, and a little 'something' extra. That something makes the difference between just another monitor, and a reference that many pros remain loyal to and rely upon for entire careers.

Hopefully this guide will provide a good foundation for your monitor buying homework during 2008, and push back the boundaries of your considerations. To complement the profiles, we've included two articles from respected names which should prove interesting, useful, and even thought-provoking. And to finish off, there's a big directory studio monitor manufacturers to further augment your options.

This guide is a collaboration between several IMAS Publishing titles – Audio Media Worldwide (www.audiomedia.com), Pro Audio Review (proaudioreview.com), Radio World International (www.rwonline.com), TV Technology (www.tvtechnology.com), and Broadcast & Production (www.broadcast.it). All of these publications concern themselves with the business of production, and production technology for professional creatives, operators, technicians, and engineers everywhere. Visit their respective websites to find out more.

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Monitoring Essentials

Simon Tillbrook interviews Nick Whitaker, acoustic consultant, for those invaluable tips and tricks of the trade to get the very best from your monitors.

Sitting there in front of you, and possibly behind you as well, are those boxes projecting your work towards you and upon which you make every critical sonic judgment. But how much do you really know about them? Are they suitable for your application? Are they positioned correctly? The questions mount up pretty quickly when you focus upon them so, with this in mind, I had a chat to a man who knows a great deal more than I do about these issues,
Nick Whitaker.

Nick Whitaker has been an independent acoustic consultant since 1988.
Graduating from Salford University with a BSc (Hons) degree in Electro-acoustics in 1984, he was initially employed with Racal Acoustics Ltd as a graduate acoustic design engineer specialising in the design and manufacturing of electro-acoustic devices. In 1985, he joined Munro Associates as an acoustic consultant/ speaker design engineer, specialising in the implementation of the TEF10 audio analysis system, and development of the Klark Teknik and Dynaudio based studio monitoring systems.

The consultancy still specialises in the use of the TEF audio analysis systems – now in the versions TEF20 and TEF25 dual channel systems, capable of both Time Delay Spectrometry (TDS) and Maximum Length Sequence (MLS) acoustic analysis.

From 1987-2002, Nick Whitaker electro-acoustics was associated with, and provided exclusive acoustic design services to, Recording Architecture Ltd (design practice) & Black Box Ltd (acoustic finishing products), collectively known as the RA/AAA Design Group.

For the purpose of this general look at monitors we are going to focus on those monitor speakers that dominate in rooms for virtually all audio-only and audio-visual applications; the small nearfield monitor loudspeaker.

I started by asking if there were any common mistakes or generic design aspects to monitors: "All the small generic type of small nearfield monitors have a built in high pass filter designed to protect the bass unit from over exertion," He explained. "This is often set at around 50Hz with an 18dB/Oct slope, and this can lead to low frequency balancing problems if you are unaware your speakers are removing this part of the spectrum,"

"When people are choosing monitors, it is surprising how many buy based on the initial reaction to them. These units seduce people as they are drawn to the bass, when they should really be spending more time with them and focusing on overall clarity."

More Design

Continuing with the issue of clarity, for the majority of applications it is the midrange content that dominates and is most critical when it comes to clarity. "The simple matter is that, as the bass driver gets bigger, the midrange starts to suffer as a direct result of the distortion created," says Whitaker.

When it comes to the bass driver, there are two basic types of design: "You can have a long voice coil in a short magnetic gap – this is the cheaper way of doing it, and this design allows for more power to be applied to the voice coil – or a short voice coil in a long and powerful magnetic gap.

"Within the main area of the magnetic gap, the magnetic lines of flux are linear, and as you get towards the edge of the gap the lines of flux become more and more non-linear. If you have a small voice coil moving in and out of a long magnetic gap the voice coil stays within the linear region of the magnetic flux, but with a long voice coil in a short magnetic gap there is a greater deal of movement within the non-linear area of the magnetic field, thus producing a greater degree of distortion."

According to Whitaker, the effect on the distortion figures between the two designs, across the frequency spectrum, at all volume levels is quite dramatic: "The bass driver will add in greater degrees of midrange harmonics as the driver distortion increases, and this in turn masks the midrange delivery of the monitor causing the clarity to suffer."

Environmental Effects

Obviously there are many room acoustic issues that have a direct effect on monitor delivery, even with close nearfield monitors, but what are the main issues affecting us in today's studios? Whitaker: "Even though digital control equipment gets smaller, there seems to be an insistence that the desk they are mounted on gets flatter and bigger. So you often end up with a pair of speakers set six inches above a large flat reflective surface."

This is not the only problem: "Also the screens are an increasing problem. With flat screens getting cheaper and bigger and, depending on the type of facility, you will see anything from two to four large screens in front of, and obscuring, the monitors. For the time being, with current screen technology, I can't really see any way around this problem."

When it comes to different studio environments such as post, broadcast and music Whitaker only really sees one basic difference in monitoring as he explains: "All studio monitor situations are basically analytical. Whether you are in a post room,

broadcast facility, or music studio, the majority of the time is spent critically listening, and the requirements for that are pretty much the same. The only arena where there is a difference, it seems, is in music facilities where there is a requirement to create an environment where people need to 'get off' on the sound rather than it be about great clarity. The only monitor I can see that managed to straddle those two requirements of critical and creative listening is the Yamaha NS10."

Stands

What your monitors are sitting on is very important indeed, "In an ideal world, the speakers would be rigidly set on a concrete plinth one hundred feet into the ground, but we need to look at more practical solutions." He continues: "The next best thing is to increase the inertia of the speaker cone, and attempt to isolate it from the studio or console surface, that's where the acoustic isolation, spongy stuff comes in. The idea is to make sure there is as much resistance as possible to the woofer movement to maximise delivery.

"As with speaker cables, the choice of stand has an impact on the sound. You need stability primarily. But don't go too crazy – like cables it gets to the point where gain is simply outweighed by cost."

Position

A slight continuation with the discussion on stands is where we begin the issue of monitor position, "Placing speakers on a heavy meterbridge like an SSL 4000 for example, or a heavy speaker stand, will create a loading effect that creates a low frequency boost," says Whitaker. "You can get caught out if moved from here as there will be a dramatic change in low frequency delivery and apparent midrange clarity, but not all meterbridges are as solid as they look, and if you have a void under your speaker, or simply a flimsy build quality, then that can make things much worse."

Some position issues are just common sense: "Get the monitor away from flat surfaces, and position them as symmetrically as is practical. Then spend some time moving them by tiny amounts, playing material you are familiar with.
A movement of a few inches can make an enormous difference. You will need to experiment a bit."

Height is an area where care needs to be taken as Whitaker explains: "Ideally, you want the speaker height to be odd multiples of the room dimensions, and not tilted down, reflecting off the console surface as is so often the case with inappropriately positioned stands. If a stand is being used then remember that stability will be affected if the footprint of the stand is too small. A slight increase in height will require a more substantial footprint to maintain stability."

Surround

And so to the can of worms that is surround monitor positioning. "Room size is a big issue here. We need to get the monitors away from each other so low frequencies are not too affected. A nice seven by seven meter room would be great, and then there is the problem of the centre speaker."

Good spacing on the three main matched monitors in the front is important as the main sound stage. Whitaker: "Correlation between the front three monitors and the rear depends on application. In most post and broadcast situations, the soundstage is set with the front three-way stereo and ambient to the rear."

Moving onto the LFE/subwoofer, there are many rooms where the sub is placed wherever is convenient rather than having any plan to it. "The LFE/Sub wants to be centrally placed, and a bass management system really needs to be part of the surround monitor system to give an accurate idea of balance between all the channels," says Whitaker.

There are a number of guidelines for rear/surround monitor position with particular reference to the angle relative to listening position. "Most look to an angle of 110 degrees, but there is scope here. If you position for a particular sweet point, as soon as you lean back they are out of alignment. You need the rear monitors a good distance from the front channel monitors, but do not be too specific with the rear angle. There is some variation here."

Help Is At Hand

So after imparting all this useful information, why would you need to employ an acoustic consultant like Nick Whitaker? He, of course, has an answer: "Commercial rooms generally need some degree of acoustic treatment, and I can help to spec that and the appropriate monitor options and position relative to application. Having the correct measuring equipment and the experience to go with it will, of course, help.

"The principal difference between post, music, and broadcast facilities comes with the way this acoustic treatment is presented, and so the cost of finishing can be dramatic. The raw acoustic material costs will be similar, but to gain a corporate feel can require custom construction and then the costs mount up. I am able to present a number of options and costing for a client to make a decision, and work with interior designers to make sure that the acoustic do not suffer for show."

We have really just taken a high-level view of the issues that surround monitor loudspeakers in today's audio industries. After my conversation with Nick, it became very clear to me just how critical and complex this subject area is, and we could delve into any of the areas we have looked at in considerably more depth.

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Ears Right?

Dave Foister challenges some common assumptions about how we 'hear' our music, and asks why our experiences of sound can be so very different.

A few years ago, a reputable mastering engineer went on record in a magazine article stating that he usually found it difficult to tell the difference between mono and stereo just by listening. Admittedly, his business apparently suffered after this startling revelation, but that doesn't alter the fact that he'd been doing a perfectly good job for several years. He had worked on a project of mine, and I'd happily have used him again. But what it did highlight is how widely our perceptions of what we're hearing can vary, and how wrong our assumptions about what matters can be.

DigiDesign RM2

Of course there's nothing new in the idea that appreciation of recorded sound and audio equipment is very much a subjective thing. You can measure all you like, but informed, experienced grown-ups will still come to blows over which technology, which technique, which piece of kit is 'better'. As much as anything else, this is true of loudspeakers.

In 1996 the AES published a paper, AES20, drawing up a standard for listening tests on loudspeakers. In its acknowledgment of all the pitfalls of assessing equipment just by listening to it, and in its attempt to eliminate the variables and establish a framework for consistent and fair tests, it is a brave document. Most of us will never have the time or resources to carry out its recommendations to the letter, but it's hard to deny the force of its arguments and premises. But revisiting it the other day, I was struck by some of the things it regarded as problems, and some of the assumptions contained in it, and I was reminded of the aforementioned hapless mastering engineer's innocent but damning admission.

Balanced Opinion

I have a problem with some of the assumptions that generally seem to be made about how we hear loudspeakers. I don't claim to have Golden Ears by any means, but some of the aspects of loudspeaker listening that are supposed to be problematic don't seem to bother me, and I'd like to know if others feel the same. I don't get it when people sit in the sweet spot and can't localise instruments in the stereo image, even on rubbish loudspeakers. It doesn't seem to matter whether it's multi-miked or purist, unless something's hard left or right they just can't place it. I don't get it when people can't hear the stereo image at all if they move off-centre; it sometimes seems as though only a foot off to the left, they stop hearing anything coming out of the right-hand box. It doesn't seem hard to me to compensate for where I am and hear everything where it should be, even if I'm right off to one side – not with as much precision perhaps, but it's all still there. With all due respect to our mastering engineer, I don't get it when people can't tell the difference between stereo and mono; to me, mono is like listening through a crack in the door, and stereo is what you get when you fling the doors wide open and march into the room.

Un-Phased

But most of all, I really REALLY don't get it when people can stand in front of (or in fact anywhere near) a pair of out-of-phase speakers and not be aware there's anything wrong. It's bad enough in a friend's living room, where perhaps a pair of untrained ears can be forgiven for not noticing that there's no bass, not even a vague idea of where anything's supposed to be, and above all an agonising feeling that your eardrums are being sucked out of the sides of your head, there's a paint-stirrer in your brain, and last night's dodgy curry is about to wreak its havoc.

It's also possible to recognise that the shelf-stackers in a record store are immune to similar feelings as they wander around the aisles of CDs between speakers that were apparently installed by a colour-blind orang-utan. The fact that some of us can't stand to spend more than a few seconds in those particularly sour spots would be a complete mystery to them; the fact that it loses them sales, as potential customers run gagging from the shop, should bother them, but clearly doesn't. Likewise the home electronics stores, but I suppose that shouldn't be a surprise; if they can cheerfully display a whole wall of TVs where no two pictures are even slightly similar, then the proudly-displayed stereo with its speakers wired in opposite polarity isn't going to phase them at all.

But when people who consider themselves to be audio people don't notice, I have to wonder what exactly we're all

experiencing as those little variations in air pressure hit our auditory canals. I once went into a control room that had recently been completed and was being shown to me by its proud designers and installers. To be fair, it was a DIY job, but an expensive one by people who claimed to know what they were doing. You know what's coming: as soon as the first millivolts hit the drivers I wanted to run screaming from the room, pausing only to collect a sick bag. They had been working in there since the room was finished, with the monitors wired in opposite polarity, and hadn't noticed. When I put it right, as I felt duty-bound to do in as diplomatic a way as I could muster, they acknowledged that it sounded better but couldn't put their fingers on why, and pronounced the difference to be 'subtle' and something that only an experienced engineer like myself would notice. Is this true? Seriously, write in and tell me.

Back To School

But there's worse to come. I subsequently participated in a seminar about audio training, where I raised the idea that there are audio people and non-audio people, just as there are people who are musically talented and those who are not. Most of the audio people I know began by messing about with sound equipment at an early age; my dad bought a tape recorder when I was eight and I was soon trying to break it, finding out that it worked by electricity by connecting a light bulb to its speaker output and watching it flash, and experimenting with the rubbish sound-on-sound system that did nothing more than turn the erase head off. Sad and nerdy I know, but it got me where I am today and I suspect the same is true for many an audio professional. I suggested that it was no more possible to teach somebody to be an audio pro from scratch at college than it was to train somebody to be a professional musician in the same time; there had to be a natural aptitude and a long-standing enthusiastic involvement for it to work. To demonstrate my point about those who've got it and those who haven't, I related the above story about the out-of-phase monitors, suggesting that an inability to discern the difference should mark someone down as not cut out to be in pro audio and rule out the possibility of ever working in it. To my astonishment, a senior guy from a well-known training organisation dismissed what I was saying by commenting "well maybe they liked their monitors out of phase". To me (and I suspect to many others in the room) that kind of proved the point, and damaged permanently my regard for that particular training organisation.

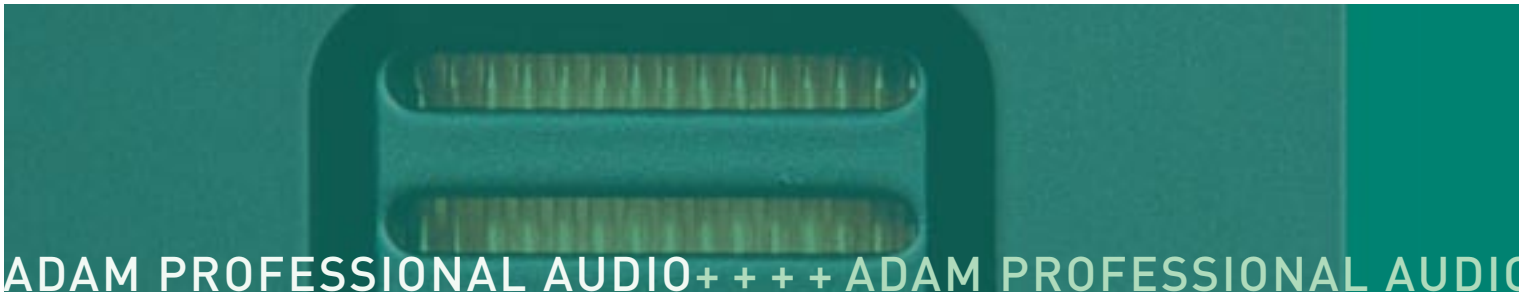
Genelec 8240A

But, worryingly (there is a point here, honest), AES20 recommends, early in its guidelines, using test tones to establish whether the speakers under test are correctly wired in phase. Feeling, as I do, that it's no more possible to miss out-of-phase speakers than to miss a giraffe walking into the room, I would regard this as completely unnecessary; but if the august AES members who drew up the standard feel it to be important, I have to wonder whether my sensitivity to the phenomenon is unusual. Another example shows what I mean: years ago I was at an Ambisonics seminar and demonstration at a top studio, attended by some of the industry grandees. When it came to the demo, on a system that had clearly been carefully set up and checked by the people presenting the day, some of us felt uneasy; this wasn't delivering what we knew an Ambisonic playback system could. Eventually one person was brave enough to stand up and say so; we were hurriedly offered a cup of coffee and the system was taken apart and checked. It transpired that of the four identical speakers chosen for the demo, one of them had one of its drives wired back to front. That was enough, for several of us, to wreck the reproduced image, while for others it apparently made no difference. Remember that these were all experienced audio pros.

Dynaudio BM12A

Discuss...

The fact that some people like certain colour combinations that others consider to clash, and that Marmite can revel in the polarisation it causes, suggests that in every sensory area our systems are probably conveying completely different impressions to us. If this is true of hearing, then it makes the whole subject of monitoring even more of a subjective quagmire than it already is. If we all hear such different things, if we are all sensitive to different aspects of sound, then the trade-offs and compromises inherent in loudspeaker design will have different impacts on different people. We take it as a given that there's no such thing as a perfect transducer, and that engineering a loudspeaker simply means making the best fist of it that one can among the minefield of interacting variables; it seems to me possible that improving one aspect at the expense of another will make a speaker sound 'better' to one person and 'worse' to another.



A Work of ART

Due to several technical inventions at the heart of the matter – the Accelerating Ribbon Technology (ART) being the most famous one – the products of the Berlin based company have instantaneously proved to be amongst the best tools available in professional monitoring.

Groundbreaking innovation in electro-acoustic transducers, painstaking design and superior materials are the cornerstone of ADAM technology – but what sets these monitors apart is the breathtaking realism of the sonic images they reproduce.

To an engineer, this new level of perception results in a mix with true imaging and depth, that is fully transportable across the complete range of listener music systems.

State of the ART!

Corner stone of the unprecedented audio fidelity are the innovative folded ribbon mid and high frequency drivers. All previous non voice coil based driver designs have exhibited technical shortcomings such as very little impedance (ribbons), bad dispersion (electrostatics), low efficiency (magnetostrictive tweeters) and so forth. Overcoming the problems of conventional driver designs is exactly what the ADAM ART (Accelerating Ribbon Technology) tweeters and midrange units successfully do. They take a completely new approach to the kinematics of moving air, resulting in a dramatic improvement in the quality of audio reproduction.

When only the best will do

A small selection of ADAM users:
Elliot Scheiner, Chuck Ainlay, Bernie Kirsh, Danny Elfman, Dennis Sands, Kevin Killen, David Schiffman, Thom Russo, Timothy B. Schmitt, Scott Spock/The Matrix

A small selection of studios using ADAM:
Abbey Road, 20th Century Fox Digital, Paramount, Jazz At Lincoln Center, Blackbird Studios, Masterfonics, Circle House, Soundelux, The Juilliard School, The Lodge, Mozarteum Salzburg

Construction

The ART membrane consists of a pleated diaphragm in which the folds compress or expand according to the audio signal applied to them. The result is that air is drawn in and squeezed out, like the bellows of an accordion.

Velocity Transformation

Whereas all other loudspeaker drive units act like a piston, moving air in a 1:1 ratio with regard to the motion of the driver, the ADAM ART design achieves an improvement in air loading by a factor of four over conventional transducers. This markedly superior 'motor' is responsible for the unprecedented clarity and pristine transient reproduction that can be heard with the ADAM ART drive units.

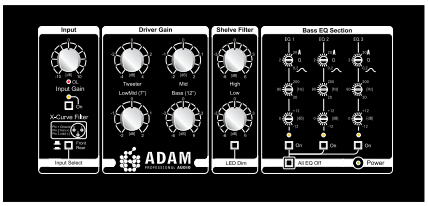
The Woofers. In-Depth Depth...

To match the unique clarity and precision of the ART tweeter and midrange: That is the challenge of the ADAM woofers. They are designed to reproduce the given sound material with the highest possible authenticity, guaranteeing ideal translation to the widest range of systems and environments.

HexaCone™, as used in ADAM's S-Series, proved to be the preeminent materials to meet that requirement. The core is a honeycomb Nomex™ structure that makes them both extremely light and very stiff. The front and back of the cone have been coated with Kevlar™, one of the most advanced synthetic fibers available. Kevlar™ withstands elongation by a force factor greater than 1000 times that of steel, enabling the cone to resist deformation. HexaCone™ woofers are far more rigid than paper, polypropylene or aluminum devices of similar dimensions. Due to this rigidity, break up resonances in the diaphragm cone are prevented.

Control Panels. Trust is Good, Control...

Even the very best loudspeakers inevitably face the problem of always varying room acoustics, of room modes and different early reflections. To counteract this problem as efficiently as possible, every ADAM monitor and subwoofer features numerous controls to guarantee optimum performance under the prevailing acoustic circumstances. Because trust is good, control is better.



Control Panel S6A Mk2

As You Like It: The ADAM Product Series

Whether for small home applications or professional environments, in mobile facilities or large studios, for recording, mixing and mastering: the great variety of ADAM monitors provides the perfect tool for any application and environment in professional audio.

The series range from high-value basic models (A-Series) through mid-priced monitors well suited for many applications (P-Series) to high-end models for all kinds of professional music recording and reproduction (S-Series). All monitors can be perfectly supplemented by six different subwoofers.

A7: "The Truth and Nothing but the Truth."

The A7 is an active two way nearfield monitor matching the ART tweeter with a state of the art 6.5" woofer that introduces a new cone material (Rohacell/carbon fiber) which combines high rigidity and high internal damping with low weight, resulting in an extremely accurate monitor

with all the clarity, detail and spectacular imaging traditionally associated with the ADAM name.
The A7 is powered by two 50 W amplifiers (one per driver).
The front panel sports both a power switch and volume control, while the rear panel houses controls for tweeter level and two shelving filters for high and low frequencies.

ADAM A7

The unit also features both balanced (XLR) and unbalanced (RCA) input connectors, allowing it to be used in almost any audio application.

Well over a dozen different magazines have tested the A7 and every single test was nothing but a paean of praise. "The very good tuning causes a tonal balance and precision in all details that usually can hardly be found" Professional Audio, Germany, outlines (10/2006). Moreover, the A7 has received the m.i.p.a Award and been nominated for the TEC Award 2007.

S3A: "A Precision Hardly Known Before"

The renowned three-way S3A utilises the ART tweeter to produce a wonderfully open sound field and flawless transients up to 35kHz. One of the two 7" HexaCone™ drivers acts as a mid-bass driver with the second woofer joining it only below 150Hz. This unusual approach effectively doubles the area and power of the woofer when it needs to respond to deeper frequencies, resulting in an exceptionally deep and punchy low end without compromising midrange performance. Three 150 Watt amplifiers in each monitor deliver outstanding dynamic performance and surprising amounts of SPL. S3As can be oriented either horizontally or vertically to fit the needs of your studio, and can be used in stereo as well as surround applications.

The multiple award-winning S3A can be found in many of the best audio recording and production rooms around the world, including professional recording studios, broadcast facilities, educational institutions, major film-scoring rooms and stages, and is widely hailed as one of the finest nearfield monitors available at any price.

A wealth of tests proves the outstanding qualities of these monitors. Tape Op (02, 03/2003) applauds: "What I heard amazed me.[...] The S3A is the best nearfield or midfield monitor that I have ever heard." And EQ Magazine concludes: "I would suggest to anybody in the market for new midfield monitors that they give the S3As a shot. Their reputation as being one of the best is well deserved." (05/2006, "In Praise of... The ADAM S3A!")

ADAM S3A

ADAM S7A

S7A Mk2: Power and Accuracy

With the S7A Mk2 we proudly present a unique combination of ADAM's proprietary transducer technology, modern PWM amplifier design, a highly sophisticated control panel, and an advanced d'Appolito speaker alignment, that result in a main monitor meant to analyse the details of every kind of music to a degree not known so far. It features a whopping 1500 W of onboard power (rms), reaching peaks of about 128dB (1m), two 15" subwoofers, two 9" HexaCone™-midwoofers, two ART midrange units and one ART tweeter.

The S7A Mk2 is the benchmark of what is possible in state of the art full range active professional monitoring, today. It incorporates all of the ADAM inventions and designs, as well as the best materials. This fusion of power and capacity with precision and accuracy results in unparalleled performance in professional monitoring.

The proof is in the listening – we encourage you to hear for yourself.

ART at a glance:

- **Velocity transformation 4:1 (the air moves four times faster than dome or ribbon tweeters)**
- **High efficiency (approximately 92 dB/W/m)**
- **Perfectly linear impedance (3.2 ± 0.03)**
- **Extremely flat phase response (within ± 1.5°)**
- **Excellent directivity characteristics**
- **Power handling capacity up to three times that of 1" domes**
- **Perfect magnetic shielding**

"The ADAM's highs had a kind of 'this is the instrument, not a reproduction of the instrument sound' that appealed to me instantly." **(EQ Magazine, 10/2006)**
"By employing the ART technology for the reproduction of the middle and high frequencies, the manufacturer from Berlin has set himself worldwide at the forefront of what is possible in highest quality reproduction." **(HardBeat 06/2007)**

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Digital Active Monitors

FAR has been active in digital monitoring since 2001. We have introduced our new XM range, a combination of technologies.

The XM series include high quality analogue Class D amplification with the addition of powerful **DSP** and CPU. The use of this technology allows new possibilities for easy, convenient and central control of both the audio parameters and the setup information via dedicated PC software and remote control. The networking possibilities perfectly suit today's applications, and allow for future changes.

The XM series features a sealed box bass principle design, that allows flush mounting, easy placement in the room, and a very accurate bass/low-medium reproduction.

All the filters available in the speaker are implemented in the digital domain. This guarantees perfect repeatability from speaker to speaker which will never vary with temperature, humidity or aging. The speaker system cannot be made more accurate or stable. The monitor impulse response has been optimised to guarantee the best possible dynamics and accuracy.

As most productions end up in a digital format, the FAR Active monitors allow direct monitoring of the digital signal through the AES/EBU inputs.

Some studios are still working with analogue signals for monitoring. To meet this requirement, all the FAR Active monitors have a very high quality analogue input as a standard feature.

The XM10 D by XM Range employs the CAC™ (Center Acoustic Coherence) Medium-Tweeter assembly. It virtually behaves as a point source without having the problems of a coaxial system. As all the XM speakers (XM10, XM8 and XM6) share the same medium-tweeter assembly, they all have the same sound signature. The sound engineer can switch from the smallest to the biggest model without losing the reference.

Culture and Philosophy

We pride ourselves on delivering speakers that meet the performance demands of our customers. The use of a compact and symmetrically sized box, and the same mid and high frequency signature from the smallest up to the biggest monitor, requires experience and expertise. We've put all of that into the XM range to meet the highest of standards.

Thanks to our vast experience in acoustics we have been able to develop software solutions for monitors.

Room Acoustics Correction

The SCS control software proposes a tool that helps the optimisation of the acoustic of the listening or working room. It is possible to load in the SCS software the frequency response of the loudspeaker in its working room and to "flatten" it manually by using the 10 band parametric equaliser.

Even if this method has the advantage of leaving the full control of operations to the technician or sound engineer, it requires a certain experience to obtain an optimal result.

ATD² has developed an assistant for the optimisation which offers (but not imposes) a solution to the user. You just need to give a model in which the frequency response of the pair monitor/room must be found. The model must not necessarily be flat, even if it is in most of the cases the searched aim. Any arbitrary form is possible.

The optimiser will search the parameters of filters which lead to an optimal solution. The user can then judge the effect of each filter by using the 'off' button which is associated with it. The user can then modify the parameters of each filter if the proposed solution does not please them.

Once the satisfactory result is obtained,

++FAR BY ATD²+++FAR BY ATD²+++FAR BY ATD²+++FAR BY ATD²

the user can then store it into the monitor with an appropriate name.

Loudspeaker Control System.

Besides the major functions such as the preset curves and the 10 band parametric equalizer, the **FAR Active monitor™** loudspeakers propose an environment of integrated control.

Via the FAR LINK ™ network, it is possible to control and configure up to seven loudspeakers and two subwoofers.

The tones controls (tilts and shelves) as well as the choice of source, the analogue full scale sensitivity,

the choice of digital channel, the delay applied to the loudspeaker, and the relative level, are directly accessible.

The delay and gain of each driver is accessible in the tab 'Xover Settings', in order to compensate an inclination of the loudspeaker which is not perfect with the listening position.

It is also possible with these settings to decrease the effects of the first reflection on the mixing desk. However, there is a powerful tool that an experienced user can use to expertly control the acoustics of the room.

Coming soon: ATD2 USA

In 2005 ATD² took over the FAR Active monitors business.

ATD² design, manufacture, and sell monitors under the FAR Active monitor brand in the same spirit initiated by FAR: high-end audio restitution, superior ergonomics, and excellent customer support.

ATD² takes care of the after-sales service of the speakers sold by FAR. We are pleased to invite you to visit our website at www.ATD2.com.

Technical Description

- Compact active 3-way monitor
- Multi-amplified (one amplifier per driver)
- Insensitive to GSM disturbance (fully balanced electronics)
- CAC™ medium-tweeter assembly (point source)
- Sealed box woofer load principle (no rear or front port)
- Integral signal processing achieved by DSP
- 10 band full parametric EQ
- Acoustic curve simulation
- Tilts and shelves
- Parameter control via speaker back panel, remote control or PC software

FAR Active Monitor by ATD²

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Listen to your Music, Not to your Speakers

These few words embody the philosophy of Focal Professional. It is crucial for engineers to be able to completely trust what they are hearing. Our drivers and speakers have been designed, developed and assembled in France by Focal for 30 years. Our products are made from the ground up to be professional tools that reproduce the reality of sound without enhancements or degradations.

Focal Monitoring Speakers: Specific Tools for Specific Needs

A speaker that 'reveals'

A tracking engineer needs to be able to capture the exact tone of the instrument he's recording with his microphones; he needs to discern the slightest shift in microphone position, EQ, or compression on his monitors.
A mixing engineer needs to be able to place various instruments and vocals in his mix with precision. The smallest details need to come out clearly on his monitors, i.e., reverbs and spaces, and they need to be reproduced at their proper levels without any artificial alteration of the soundstage.

A speaker that 'translates'

The mixing engineer also needs to be able to make sure that his mix sounds as good on any other speaker systems in any other environments. Usually, when a mix is done, the engineer will make a copy of it and go listen to it in a car or on a boom box, just to make sure that everything sounds the same everywhere. In essence, the engineer wants to make sure that his mix translates well everywhere it gets listened to. A completely transparent speaker, that doesn't impart a "color" to the sound, is the best way to ensure perfect mix translation.

Our Speakers 'reveal' and 'translate' better than others. Why?

Focal Professional designs its products from the ground up to fulfill the specific needs of professional sound engineers: to reproduce sound as naturally and precisely as possible. The truth, and nothing but the truth.
Our R&D labs have put all their knowledge and savvy into action to combat any colouration or distortion that could appear throughout all areas of the speaker. Even the slightest colouration can hinder the integrity of the signal's reproduction. It's easy to understand how a self vibrating speaker enclosure can blur the original signal, and the same goes for the drivers, the integrated amplifier, the padding, the finish, etc, etc. We scrutinise each of these elements with the same care to achieve our goal of absolute transparency.

Focal manufactures its own drivers with proprietary, patented technologies

Focal is one of the rare companies that manufactures its own drivers, and has done so for thirty years. It goes without saying that these decades of accumulated experience have allowed us to optimise our drivers' performance. To this effect, Focal uses numerous unique, proprietary, and patented technologies like the "W" Cone and the Be Tweeter.

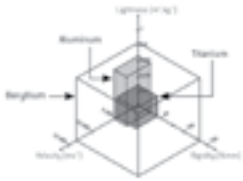
The "W" Composite Sandwich Cone

Focal has been developing composite sandwich membranes for the last 15 years. The fruit of that research, the "W" structure (glass/foam/glass) used in every Focal professional product, allows for a truly optimised response – right from the start – thanks to the precise control of rigidity, weight and damping capacity of the cone. The balance between these three fundamentals and often contradictory parameters is the very basis of the exceptional sonic neutrality of our speakers.

The Be Tweeter

Since the very beginning Focal has favored inverted dome tweeters, but the introduction of the pure Beryllium dome, capable of covering five full octaves from 1000Hz to 40kHz, has simply revolutionised high frequency spectrum reproduction. This tweeter's capacity to go as high as 40kHz without any artifacts enables it to reproduce high frequencies with unmatched speed and transparency.

At first the pure Beryllium tweeter was only available on the very high-end, digital speakers, of the Focal Professional lines (SM8 & SM11) and is now featured on the new SM6 series, allowing an unprecedented price/performance ratio.



Comparision of Beryllium with Titanium and Aluminium. Beryllium is the lightest, stiffest and has the highest velocity of sound.

The Focal Professional monitoring range

Looking for the ultimate analogue tool
The SM6 series has been developed for professional engineers who are seeking the absolute neutral sound. The SM6 line is composed of three references: Solo6 Be, Twin6 Be, and Sub6.

Solo6 Be
The Solo6 Be is an active, two-way, professional nearfield speaker (two built-in amplifiers – 150 + 100W RMS), made of a 6.5inch (16.5cm) "W" composite sandwich cone driver, and a pure Beryllium inverted dome tweeter.

Twin6 Be
The Twin6 Be is an active, three-way, professional nearfield/midfield speaker (three built-in amplifiers – 2x150 +100W RMS), made of two 6.5inch (16.5cm) "W" composite sandwich cone drivers, and a pure Beryllium inverted dome tweeter.

Sub6
The Sub6 is an active subwoofer (1x350W RMS built-in amplifier – BASH® technology) for professional monitoring sytems. The driver is an 11inch with a "W" composite sandwich cone loaded by a large section laminar port. It can be used both as LFE channel in a surround system or as a bass or sub-bass complement in a stereo system (2.1 or 2.2).

They Chose Focal...

Simon Gogerly (U2/Massive Attack/Texas)
"I have been introduced to the Focal Twin6 Be while I was there to listen to some other monitors and finally I found what I was looking for! Suddenly, I was hearing detail in my mixes that wasn't obvious before. Open and airy top end, detailed mids and plenty of punch and warmth down below, sometimes I've had to remind myself that I'm not listening to the "bigs". It's not that they're flattering either, when a mix is average that's exactly how it sounds. I was expecting to pay a small fortune for monitors like this but the added bonus is the very reasonable price. I'm looking forward to a long and successful mixing partnership with them!"

David Kutch (Alicia Keys/Outkast/Rod Stewart/Whitney Houston)
"The Focal Solo6 Be monitors simply saved my life! I could not have mastered Alicia Key's latest album without them. The Solo6 Be has a stunning amount of true sub and punchy low end for such a small speaker. The mids and top are crystal clear and distortion free, non fatiguing and not hyped in any way – and at all times, no matter where I am, they let me hear what's on the recording."

ICP Studio – Brussels
At ICP Brussels Studio B stands an SM 11 set up in front of the Neve 88R desk. ICP Studio is one of the top ten major studios in the world, known worldwide for owning one of the most amazing collection of vintage pro gears and music instruments.

In quest of the optimum solution to export the sound material from a digital console with an outstanding clarity and transparency: Discover SM11 and SM8, our professional digital monitoring systems on www.focalprofessional.com.

Complete list of distributors:
www.focalprofessional.com

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Choosing Nearfield Monitors Should Be Easy

After all, they only have one job to do. The job of monitoring. Not enhancing, not diminishing, not in any way altering the source material.

PM Series MkII

The PM-Series MkII offer exceptional audio performance matched to jaw-dropping good looks at an affordable price. Fostex strive to design and build studio monitoring systems which enable you to experience your unique sound in all its dimensions. And through tireless research and development, endless measurements and real-world listening tests, Fostex's engineers have achieved this in the form of the beautiful second generation PM-Series.

Capitalising on Fostex's supreme knowledge of acoustics and speaker engineering, and now offering a brighter, tighter sound, these studio monitors are designed inside out to provide the best monitoring experience, with minimal resonance, sparkling highs and rich, deep lows. And, with new 'high-gloss' front baffles, they look as stunning as they sound.

PM Series Group

PM-2 MkII

Created for larger rooms, the PM-2 has the power (240 watts of bi-amped power actually) and sophistication and, most importantly, the versatility to handle the most demanding recording applications. Equipped with a 200mm low frequency unit and remaining natural and transparent right across the audio spectrum, even at high sound pressure levels, the PM-2 is great for today's bass heavy music.

PM-1 MkII

Perfectly proportioned and offering the type of clear-transparent sound that singles out a great speaker, the PM-1 is capable of producing extremely high SPLs accurately across the full audio spectrum. With 120 watts of bi-amped power and a bass response that's full and dynamic, and a crisp high-end that sparkles with vitality, the PM-1 delivers the type of sonic quality that's usually the domain of monitors costing thousands.

PM0.5 MkII

The ideal choice for smaller studios requiring nearfield monitoring, the perfectly formed PM0.5 MkII offers 70watts of bi-amped power and produces great full range performance with exceptional neutrality even at high sound pressure levels.

The compact dimensions also enable accurate placement in confined or awkward spaces, with the dispersion from the two way ported enclosure design tailored such that it will deliver a superb sound almost regardless of room acoustics.

PM0.4

The ultra-compact PM0.4 now completes the lineup of the reputed PM-series ranging from 4" to 8" woofer size. PM0.4 is naturally recommended for desktop use but its superb audio performance in compact physical size expands its applications to professional console top studio monitoring, audio installation, as well as portable audio monitoring.

PM0.5-Sub MkII

Designed ideally for use with the PM0.5 MkII, the 110watt, 200mm driver PM0.5-Sub produces precise, low frequency reproduction and an excellent deep bass output. Easy to set-up (just a single gain control and phase reverse switch), the combination of a pair of PM0.5s and PM0.5-Sub provides superb sonic quality at an affordable price. Recommended for use with PM0.4.

NX-5A

NX Series

Want to take your recording experience to a whole new level? The NX-Series Powered Nearfield Monitors for Professional Recording Environments are like nothing you've heard before. But don't take our word for it. When choosing nearfield monitors for your studio you really ought to evaluate as many different speakers as you can

before a decision is made. After all, how else are you going to realise that your sound is best handled by a pair of Fostex NX-Series Monitors?

Listen to a pair of powered Fostex NX Series reference monitors and you'll discover a superb natural sound with little colouration, deep tight lows and crystal clear highs, precise stereo imaging and an almost complete lack of distortion – even at high sound pressure levels and including those subtle low frequencies.

Full of the latest in speaker technology and designed from the ground up for critical listening in both professional and project studios, broadcast and editing suites, or any other recording facility where a precise, transparent, professional sound is essential, the NX Series set new standards in sonic accuracy and packaging.

NX-6A

Excellent stereo imaging across the sound stage and an ideal response throughout the frequency range. Magnetically shielded drivers and a compact size allows easy placement close to all types of video, audio and computer devices, while the sonically pure and transparent sound, free from harshness and unwanted colouration, makes it ideal for all extended critical-listening sessions.

NX-5A

Created to offer a professional nearfield monitoring solution in tight spaces, the compact NX-5A excels in just about every department. The sound is full of clarity and audio accuracy, the stereo imaging is sharp and consistent and the level of sonic detail is incredible from a monitor so small.

The Truth

Now the choice can be made. Monitors which may make you sound good, or monitors which tell you how good you sound. Hooking up a pair of Fostex's NX-Series or PM-Series Montors for the first time is somewhat of a revelation. You may be surprised at what you hear. But at least it will be a true representation, free from any sonic colouration and distortion. Which is where Fostex come in.

PM-Series MkII

Nearfield Studio Monitors

PM-2MkII

- The LF drivers of PM-2 MkII: 8" (200mm), PM-1 MkII: 6.5"(160mm), PM0.5 MkII 5" (130mm), PM0.4 4"(100mm) have been developed to obtain extremely pure music reproduction by employing the latest technology in cone material.
- The cone uses a mixture of cut and milled fibres that are made from aromatic polyamide. It is then impregnated with resins to simultaneously achieve high rigidity and optimum damping.
- The cone also has an olefin film thermally adhered to its surface to control frequency response and to establish long term reliability.
- The center dust cap is made of non-wood cellulose material and is also impregnated with resin.
- The voice coil is made of super high purity copper wire to achieve extremely low distortion.
- The 25mm or 20mm soft dome tweeter employs Fostex's UFLC technology (Poly Urethane Film Laminated Cloth) to achieve light weight and high stability performance.
- The amplifiers are precisely calibrated to match the performance capability of the drivers.

NX-Series

Nearfield Studio Monitors

- 5" (130mm) or 6.5" (160mm) with HR (Hyper Radial) diaphragm for LF unit which utilises the latest diaphragm 'Radial Papermaking Technology' for natural and smooth sound reproduction.
- UDR (Up/Down Roll) Tangential driver edge eliminates the unwanted resonance.
- Wide-range 20mm hard dome tweeter with pure magnesium diaphragm to eliminate sharp-edge sound characteristics.
- Highly rigid cast aluminum frames for both LF and HF units which minimises unwanted vibrations and resonances.
- Magnetically shielded drivers allow for safe placement close to a video monitor.
- Time-aligned front baffle enclosure design with the HF driver recessed for a precise and pure sound.
- Bi-amplifier. Dedicated 60W (LF) + 40W (HF) bi-amplifier eliminates electric interference between the drivers
- Overall output level control & dedicated tweeter level control, LO EQ control.

Fostex®

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Genelec DSP Range Expanding

After nearly 30 years in the forefront of active monitor loudspeaker design and manufacturing, Genelec introduces the results of a decade of R&D work in applying digital signal processing to loudspeakers.

Since the founding of the company in 1978, Genelec Oy has recognised the importance of the acoustic integration of the monitoring loudspeaker into real-world working environments. The solution was to provide the loudspeaker with precise and practically oriented frequency response adjustments. This kit of adjustment tools has become an essential part of Genelec's pioneering active loudspeaker technology. Genelec has always measured, analysed, and calibrated its monitoring systems in its own testing chambers as well as customers' working environments. The database gathered over the years from this research forms a solid basis for identifying key problem areas and designing new and more sophisticated tools to overcome these challenges.

It is well known that any listening room imparts its own signature on the response of any monitoring loudspeaker system. A loudspeaker is only as good as its acoustic integration into the room. The acoustic performance advances made in developing the analogue Genelec 8000 MDE™ Series and 7000 LSE™ Series products have provided significant performance gains, both in the test chamber and in customer control rooms. The improvement is due to innovative – even radical – loudspeaker enclosure design, advanced electronics and new drivers. These solid acoustic foundations have been essential in taking the next step into the digital world with the 8200/7200 Series and GLM.SE™ monitoring systems.

Genelec 8250A shares the enclosure design of its analogue sister model, the 8050A.

Harnessing DSP power in an attempt to improve the fundamental performance of a compromised loudspeaker design to an acceptable level is hardly a worthwhile effort. A solid acoustic design complemented with enhancing DSP allows further strengthening of the product performance. DSP also greatly expands the loudspeaker alignment toolset to reach greater accuracy in acoustic calibration of monitoring systems. Consistency and ease of use are ensured by the fully automated room calibration AutoCal™, a built-in property of the versatile GLM™ and GLM.SE loudspeaker system management software packages.

Two DSP Families

Genelec's DSP Systems comprise two loudspeaker families: the 8200/7200 Series with two two-way DSP models and three DSP subwoofers, and the SE™ DSP loudspeaker system with a SE7261A DSP subwoofer and matching 8130A digital input loudspeakers. The 8200/7200 Series utilises the GLM software and each loudspeaker and subwoofer, having its own DSP circuitry, is connected to the control network. The 8200 Series monitors accept AES/EBU formatted digital audio signal or analogue line level signal. The 7200 Series subwoofers support up to eight channels of AES/EBU signal through their four XLR input and output connectors.

As its name suggests, the SE (Small Environment) System is aimed at smaller rooms and lower budgets than the 8200/7200 Series. The network is simplified by centralising all DSP processing into the network-controlled SE7261A subwoofer. The digital input 8130A loudspeakers have no independent DSP capability. Instead, the subwoofer, controlled by GLM.SE software, does all the necessary adjustments to the audio signals passing through it to each 8130A. The SE7261A subwoofer supports up to eight AES/EBU channels.

Genelec DSP monitoring systems are designed for wide ranging applications: post-production in film and video, broadcast environments large and small, and the varied and demanding world of music recording, mixing and mastering. Among the many criteria, the first and foremost in a Genelec DSP monitoring system, like any Genelec monitoring system, is that it must be robust and reliable. It must also be versatile, adaptable, consistent and easy to use. Through these criteria, the Genelec DSP and SE™ DSP loudspeaker systems take our customers further towards purity of sound reproduction, while saving valuable time and earning satisfied customers.

Software Features

GLM™ software and network provides connectivity for up to thirty loudspeakers and subwoofers, for example twenty-five 8200 Series loudspeakers and up to five 7200 Series subwoofers. GLM.SE provides connectivity for one SE7261A DSP subwoofer combined with up to eight 8130A digital input loudspeakers.

Both control softwares enable custom User Setups with all settings and functions stored in software setup files, or one setup stored directly into each loudspeaker (only the SE7261A subwoofer in SE system) for Stand Alone use.

A step-by-step Wizard guides the user through complete cabling connections and loudspeaker labelling. Rapid Cabling

setups are provided for most common system configurations, while Manual Cabling setups allow customised system configurations.

Groups for both channels and loudspeakers may be customised to suit different applications with Solo/Mute functions available for all loudspeakers and groups. Volume control can be via computer, 3rd party USB devices, customer mixing console or workstation. Video Display Compensation allows for compensating inherent video delays in digital video devices. AutoCal automated acoustic self-calibration algorithm is described in more detail in the following chapter.

AutoCal

AutoCal provides the industry's first integrated process for complete automated measurement, analysis, and adjustment of every monitoring loudspeaker in the control network to correctly align and integrate each monitoring loudspeaker into the mixing environment. AutoCal uses a factory-calibrated Genelec acoustic measurement microphone included in the GLM and GLM.SE software kits.

AutoCal automatically creates a compensation file for host soundcard, aligns level and compensates distance differences. The Acoustic Response Editor window provides accurate graphical display of the measured response, filter compensation and the resulting system response for each loudspeaker, with full manual control of acoustic settings. SinglePoint™ and MultiPoint™ microphone positions provide measurements for one, two or three-person mixing environments.

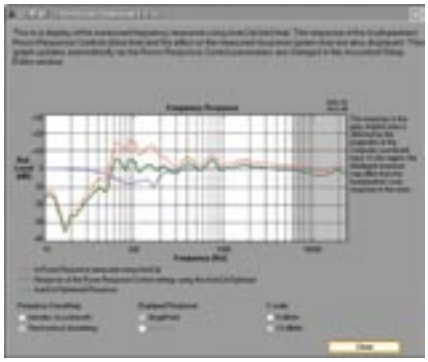
AutoCal Functions in the GLM System

The 8200 Series loudspeakers can utilise four parametric DSP notch filters and four parametric DSP shelving filters. Vertical Axis Trim allows vertical shift of the acoustic axis in situations where the loudspeaker cannot be physically optimised. The 7200 Series subwoofers utilise four parametric DSP notch filters and bass roll off controls. AutoCal adjusts correct crossover phase for all subwoofers in the network.

AutoCal Functions in the GLM.SE System

The network-controlled SE7261A subwoofer utilises four parametric DSP notch filters, bass roll off controls and phase adjustment. The output channels on the subwoofer for the 8130A digital input loudspeakers can utilise two parametric DSP notch filters. In addition the room response controls in the loudspeaker hardware can be used.

The SE7261A subwoofer is the centerpiece of Genelec's new SE DSP System.



The Interactive Response Editor window shows the frequency response curves before and after running the AutoCal calibration process.

GLM.SE main window showing loudspeaker groups and volume controls.

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KRK Systems

Studio Monitors Achieve Clarity And Accuracy With Innovative Designs

By the 1980s, Keith Klawitter had achieved some success as a sound recordist on films such as *Final Mission* and *Brainstorm*, followed by work on *The Doors* in 1991. But when he approached the console, he often felt limited by the studio monitors available to him at the time. Rather than waste precious time grumbling about these speakers' lack of clarity and accuracy, he developed his own monitor that delivered exactly what he wanted. Not only did Klawitter's new design work for him, it seemed to work for many other producers and engineers, as well. As orders began to swell for his new, high-end design, KRK Systems was born. Now, with headquarters in Hollywood, Fla., and service centres in both the US and UK, KRK stands as one of the leading studio reference monitor manufacturers for home, project, and commercial recording facilities.

VXT8

Drivers	***Woofer:*** 8" Woven Kevlar
Tweeter	1" Silk Dome Ferrite
Input	XLR-1/4" TRS Combo
	10k Ohm Balanced
	Pin 1 + Sleeve = Ground
	Pin 2 + Tip = (+) High
	Pin 3 + Ring = (-) Low
Amp & Fusing	HF: 60 Watts
	LF: 120 Watts
	4.0A 100VAC 50Hz
	4.0A 110-120VAC 50/60Hz
	2.0A 220-240VAC 50/60Hz
Frequency Response	37Hz - 22kHz +/-1.5dB
Dimensions (H x W x D)	
	17 1/4" H x 12 1/2" W x 11 7/8" D 43.8cm H x 31.8cm W x 30.0cmD
Shipping Weight	41 lbs

Right out of the starting gate, KRK stood out from their competitors with their innovative designs. The company was one of the first to release active monitors, introducing integrated power supplies to the pro audio market. By precisely matching the power source with the transducer elements inside the enclosure, KRK monitors were optimised in a new way, and the technology became an important factor in delivering accurate sound reproduction not only for KRK, but for others to follow.

Users can distinguish KRK monitors from the masses by their signature yellow woofer made of double-woven Kevlar®, a material known for its ruggedness as well as its precise audio reproduction. Each model from the various KRK lines contains a custom-designed LF driver.

KRK also gave each of its products a distinctive enclosure, carefully designed to minimise the potential for standing waves as well as to create a sleek look. All cabinet edges and port openings are heavily radiused to reduce diffraction, which results in improved detail and stereo imaging. KRK monitors also use slotted ports (as opposed to the more common round port) to reduce air pressure inside the enclosure. Inside the box, KRK monitors feature a bi-amplifier design consisting of audiophile-grade components, and certain models contain limiter circuits designed to mitigate the negative effects of overdriving the amplifier or transducers.

KRK Exposé

KRK's "legacy" product line, the Exposé Series, debuted in 1997 with the E7 and E8, both active, two-way systems that offer the wide frequency range and SPL of a larger main system, but with the superior imaging and compact size of a first-class nearfield monitor. A few years later, KRK presented the E8T, an upgrade to the E8 that offers two symmetrical discrete power amplifiers, newly designed crossover circuitry, and an eight-sided design. "The excellent transient response of the E8T's Poly-Kevlar woofer helps a lot in handling the 'snappy' nature of transients in digital recordings, while the Titanium Oxide tweeter helps reduce ear fatigue after hours of listening," said Producer/Engineer Tal Herzberg, best known for his work with Christina Aguilera, the Black Eyed Peas, Pussycat Dolls, and Joss Stone, among others.

Herzberg uttered these words long before the recently released, top-of-the-line E8B, which ups the ante on the popular Exposé line. "The Exposé line is really well known as a high performance product, and we continue that flagship strategy with the E8B," says Mike Newman, Director of Product Management for KRK Systems. "We refined our cabinet design to create a contoured enclosure that not only looks great, but also provides a very wide sweet spot for increased off-axis response "We literally pulled out all of the stops because we wanted the best looking recording monitor on the market," says Newman. "The cabinets are hand-sanded and hand-buffed, and the heat sinks blend into design, which not only looks great but is also very functional. We are also very excited about our new proprietary high and low frequency drivers that provide amazing performance."

The E8B's curved front baffle and wide-radius edges reduce the diffraction effects for better imaging, while its non-parallel, internal walls help reduce chances of standing waves inside the cabinet. The thinnest point in the construction of the cabinet walls is one inch; the enclosure's curved exterior helps prevent resonant buildup in the walls themselves.

The E8B uses two discrete, 120-watt (RMS) Class A/AB power amplifiers. Its custom-designed HF tweeter is made of AlBeMet, a composite material comprised of beryllium and aluminum. The aluminum helps dampen the metallic characteristics of pure beryllium, which is very light but very stiff, allowing for high-frequency operation with less distortion. The resonances that occur with beryllium are far beyond the normal human hearing range, therefore eliminating any other second- or third-order harmonic distortion that is audible in the human range of hearing. KRK also increased

the voice coil diameter on the E8B tweeter, which leads to improved power handling capability. The lowered resonant frequency also improves the phase relationship.

With the Exposé line, KRK built an avid fan base of top-tier engineers, producers, and recording studios. Building on their wide customer base, KRK addressed the needs of the growing home and project studio market with the Rokit™ Powered Series, a line that features all of the quality and many of the design elements of the company's premium models (including that signature yellow woofer), but at a more affordable price.

The Rokit series consists of three studio monitors: the RP-5, RP-6, and RP-8, each boasting a five, six, and eight-inch glass aramid composite woofer, respectively. The Rokit line also features one-inch neodymium soft dome tweeters with Ferrofluid for increased thermal power handling and damping performance, which results in more natural-sounding highs and a tight low-end response. The RP-10S subwoofer complements the Rokit monitor series with its level control, phase switch, and variable low-pass filter, and also contains the full compliment of input options offered on the Rokit Powered Monitors.

E8B

Drivers	Tweeter: 1" AlBeMET Inverted Dome
Woofer	8" Dual Layer Kevlar w/Rohacell
Input Type	XLR (3-Pin) 10k Ohm Balanced Pin1 = Ground Pin2 = (+) High Pin3 = (-) Low
Amplification	HF: 120Watts Discrete Class A/AB LF: 40Watts Discrete Class A/AB
Fusing:	6.0A 100VAC 50Hz 6.0A 110-120VAC 50/60Hz 3.15A 220-240CVAC 50/60Hz
Max Power Consumption	500W
Frequency Response	40Hz - 30kHz +/-1dB
Maximum SPL @ 1m	112dB Music 115dB Peak
Video Shielding	Standard
Dimensions	19.3" H x 14.6" W x 14" D 491mm H x 370mm W x 355mm D
Shipping Weight	75.6lbs / 34.31 Kg
Mounting	OmniMount 120.0 WBX Hardware is installed into the inserts to mount the 120.0 WBX Base

Breaking New Ground With VXT

KRK's newest addition, the VXT Series, also contains three models – VXT4, VXT6, and VXT8. While the design characteristics build off the successes of the high-end Exposé Series, KRK keeps the price point in the median range. "It was important for us to have the VXT Series mirror the same look and performance of our flagship monitor, the Exposé E8B," Newman says. "The same expertise and care that went into the design of the Exposé went into the design of the VXT Series. The wider sweet spot, excellent imaging, and extended frequency response will make the VXT Series the preferred choice for recording professionals and musicians worldwide. Our Senior Design Engineer, Larry Altman, really raised the bar on this product line."

The nearfield monitors' curvaceous enclosure design, which features the same radiused front edge as the E8B, delivers fashion and function by offering low resonance, improved structural integrity and extended low-end. In addition to the custom Kevlar drivers, each VXT model features a one-inch soft dome tweeter, and a toroidal power transformer for low hum and minimum noise. The VXTs are constructed of ABS structural foam to allow more internal volume, which provides significant bass extension and keeps resonance to a minimum. And again, no internal parallel walls for improved imaging.

Ever the detail-oriented manufacturer, KRK designed the VXT Series with a host of extra perks, including tamper resistant switch covers, integrated Omni Mount support for wall or corner mounting, ground lift, defeatable limiter and auto mute controls, and high and low frequency adjust switches on the VXT6 and VXT8.

As KRK Systems continues to attract attention with the VXT Series and Exposé E8B, the company promises exciting times ahead. "We plan to continue to integrate our technology into the musician and project studio market," says Newman. "We'll continue to utilise what we've learned to develop high-performance products and continue to broaden our horizons. We want to own the control room!"

Ron Fair, Chairman, Geffen Records

"Over the past five years I have produced hits for Mary J. Blige, The Pussycat Dolls, The Black Eyed Peas, and Keyshia Cole, listening exclusively to KRKs.

KRKs are the benchmark for me. In production, in final mixes, in casual listening sessions: it all leads back to KRKs. I have brought them to mix rooms, mastering rooms and living rooms in order to establish that what I'm hearing.

KRKs are refined, pristine, and analytical, while at the same time kick serious ass, impress the hell out of artists, dazzle the promotion staff, and deliver an unforgettable sonic impression."

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Transparent Surround Monitoring

The world's only speaker and amplifier manufacturer delivering audio with full Blu-ray surround transparency. Lipinski aims to advance the art of recording to the next level of reference.

'Lipinski Powered Channel' - Lipinski PowerStand (Monitor L-707, L-360 Sand-filled Stand, L-300 Monoblock Amplifier)

POWERSTAND AMPLIFICATION

How can you place the amplifier very close to the speaker, without attaching it to the speakers' enclosure? Our solution is to use a mono block amplifier built into the speaker stand. Line level cable length is not as destructive to sound quality as the length of the speaker cable.

SURROUND

The Lipinski Surround Solution developed from over 35 years of research in surround. Founder, Andrew Lipinski, started honing his skills with Quadraphonics in the 1960s. Today, Mr. Lipinski's 6.0 (ceiling channel) SACD releases appear in Stereophile Magazine's prestigious list of "Records to Die For".

TRANSPARENCY

Andrew Lipinski's perfect hearing abilities were recognised by the United States National Bureau of Standards, where he was the only individual to achieve a perfect score on the listening evaluation of phonographic recordings. "A score of 10 correct of 10 selections would be expected one out of 1000 times" - National Bureau of Standards (NBSIR 88-3725) on Mr. Lipinski's score.

MATCHING COMPONENTS

Unlike most other audio manufacturers, we do not "tweak" the inaccuracy of one piece of equipment with an adjustment of another component (e.g. frequency response of speaker equalised with amplifier, etc). Each component must be state-of-the-art on its own. Only at the very end, do we evaluate the system as a whole.

IDENTICAL SPEAKERS

Neither "centre-channel" speaker design nor "surround speakers" (e.g., bipolar) allow for precise control of all aspects of the surrounding space if the speakers are not identical. Therefore, our design is based on adherence to one of our strongest beliefs: only absolutely identical speakers are appropriate for audiophile quality and professional surround monitoring.

PASSIVE ENCLOSURES

Our laboratory tests indicate that when an amplifier is built into a speaker, second and third harmonic distortions can rise up to 15 percent! This was also confirmed in our blind listening tests. The problem was recognised by some high end audio manufacturers using extra dampening material for enclosures of standalone amplifiers to avoid vibration caused by speaker proximity. Our solution is an industry-first "Powered Stand" based on our mono block amplifiers.

Monitor L-707 in new Black Satin
(photo by Wicked Digital)

TIME COHERENCY

Most ordinary surround systems do not compensate for an effect called time smear. Specifically, adding a subwoofer with its own preamp (even with controls for level, frequency cut off, phase etc) causes a delay of the signal. To compensate for this inevitable delay requires moving a subwoofer several feet in front of the satellite – practically unrealistic.

Lipinski solves the time-smear problem through high-pass and low-pass filter cards within Lipinski amplifiers, simultaneously for loudspeakers and subwoofers, thereby perfectly adjusting the system in the time domain.

SHORT SPEAKER CABLES

Our extensive experiments with top rated speaker cables clearly indicate that a quality, short length cable elicits better sonics than a superb quality, longer cable. Not only is the wiring inside each speaker kept short, but the Lipinski PowerStand forces the amplifier to rest in the body of the speaker stand, directly under the speaker.

DEDICATED SUBWOOFER AMPLIFICATION

Our external subwoofer amplifier delivers 150A of current and can work with loads as low as .5 Ohm. We use dual topology – two separate 300W power amplifiers working in parallel mode. This is to increase damping factor – the single most important parameter for a subwoofer amplifier. In contrast, bridge mode used by most manufacturers lowers the damping factor. In addition, we doubled the amount of output devices.

STEREO SUBWOOFERS

Single or multiple front subwoofers should supplement bass extension for the main speakers, thereby making them full range. Separate subwoofers also make setting up a room much more flexible. Subwoofers have slight but noticeable influence on imaging. Even sharp, low-pass filters allow for some bleeding above 100Hz which is directional. Therefore we recommend front firing woofers. For the same reason we recommend two wide-spread front subwoofers instead of one.

CLASS A

The monitoring system received highest Class A and Best Buy status in world audiophile and pro-audio magazines such as Pro Audio Review, Mix and Stereophile. Lipinski focuses on providing audiophile-grade equipment to pro-audio customers. We do this for our customers to achieve outstanding recordings.

Illuminated, Engraved, Glass Front Panel with multiple color combinations to suite environment

We use premium quality materials, hand-selected from custom suppliers to ensure the highest quality product.

FLAT FREQUENCY RESPONSE

Lipinski Sound personality cards perfectly match our loudspeakers with subwoofers for absolutely flat frequency response. To build our cards we do not use ICs, instead, we designed our patent-pending Lipinski Square technology.

Thereby, the Lipinski monitoring chain is the world's most linear and most accurate through integrating the subwoofers and power amplifiers into a perfectly time coherent and frequency calibrated system.

LIPINSKI SOUND

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PMC – Ultimate Reference

PMC has placed monitors throughout the world's most superior facilities, demonstrating time and again their claim to be 'the world's reference monitor'.

Optimum Mastering – Bristol, Stereo MB2 XBD-A & TB2S+ 5.1 surround system

Introduction

PMC has become the industry standard for audio monitoring in the professional world. With superb stereo imaging and pinpoint accuracy from 5.1 surround sound systems, PMC monitors demonstrate an unparalleled listening experience. In the live broadcast arena PMC systems are in daily use for the BBC HDTV broadcasts, they are also responsible for the majority of premier 5.1 Audio for DVD Mastering. PMC is also highly regarded in field of post production and studio monitoring.

PMC monitoring systems are used in all genres of music and in all parts of the production chain, as well as in the home writing studio through to major studios and the final mastering of material for CD & DVD release.

PMC is regarded as the ultimate critical tool for engineers and artists.

Flagship

The large active BB5-A and MB2-A range from PMC justly deserves the label of 'no compromise'. Every element has been designed and manufactured purely for its performance and encompasses the smallest detail from individual cable choice through to hand selection of capacitors in the active crossover networks. This level of resolution cannot be achieved with standard technology and average tolerances. The large active range variants cover all requirements of the recording professional and are not restricted by the intended type of playback material. The combinations allow for perfect integration into any sized room, with increased LF headroom available with the 'XBD' models.

BB5 XBD-A

Professional Tools

The DB1S-A is the smallest activated monitor from PMC with an unbeatable response down to 50Hz. Superb power handling and resolution make it the ideal nearfield monitor for stereo and surround.

The larger activated TB2S-A has become a firm favorite amongst quality conscious broadcasters, post production and smaller sized studios in either surround or stereo nearfield roles.

The Activated IB1S-A is an extremely flexible 3-way monitor, which has found its home in the most varied of environments. It's hugely popular in Hollywood film scoring and postproduction. The IB1S-A features wide dispersion soft domed fabric mid and high frequency units, the PMC 10″ carbon fiber and Nomex™ flat piston driver. This flat patented driver increases dynamic handling and eliminates distortion that may occur due to cone break up.

DB1S-A & TB2S-A

The IB2S-A is based on the hugely successful IB1S-A with one major change to the driver compliment. The addition of the PMC 75 large soft dome mid range unit increases the definition and clarity to the level of the larger monitors in the range with no increase in cabinet size.

IB2S-A

The AML1 is as far from a 'me too' product as could be imagined. The AML1 design is one of 'no compromise' and the only way of achieving this goal is to manufacture the complete device 'in house'.

Surrounded by Sound

PMC offer all their monitors configurable to 5.1, from the smallest activated system through to the biggest BB5 active rig with a range of complementary subwoofers available. The DB1S-A and TB2S-A are compact, two-way activated monitor designs,

History

Founded in 1990 by Peter Thomas of the BBC and Adrian Loader of FWO Bauch, the combination of knowledge and a life-long passion for the music led to the production of PMC's first product – the BB5-A – an active main studio monitor. This design was snapped up by the BBC Maida Vale and Metropolis Mastering and remains the world's reference, used by Stevie Wonders Wonderland Studio, Hospital HDTV Broadcast London and for renowned classical labels such as Decca and Harmonia Mundi. Many of today's movie themes have been crafted using PMC, from such eminent composers as Hans Zimmer and James Newton Howard.

PMC reigns supreme throughout the leading mastering houses, broadcasters and much of the professional world. They believe a good loudspeaker should be able to relay the purest intentions of the artist without colouration.

Client List

Broadcast/Recording/ Mastering/Post

BBC TV
BBC Radio 1,2,6
BBC Maida Vale
Metropolis Studios & Mastering
Teldex, Berlin
Hospital HDTV Broadcast Studios
The University of Music, Düsseldorf
The Soundmasters
Fluid Mastering
Spirit Studios
Fleetwood Mobiles
Moving Picture Company
Piccadilly Radio, Manchester
Capitol Radio, London
Emil Berliner /Deutsche Grammophon
RTL
ORF
NFL (National Football League USA)
Sony
Dolby
Google
Digi Design
EMI
Siemens

Clients/Artists

Kraftwerk
Coldplay
Peter Gabriel
Stevie Wonder
Robbie Williams
Brian May
Francis Rossi
Peter Andre and Katie Price
Paul Merton
Tori Amos
Underworld
Crystal Method
Tony Bennet
John Rutter

Film

Dennis Sands
James Newton Howard
Danny Elfman
John Debney
Hans Zimmer, Remote Control Studios
Trevor Morris

TB2S-A 5.1 Surround System with TLE1S Subwoofer

employing unique technology in the form of PMC's ATL™ design and Flying Mole™ digital Bi-Phase Fusion amplification. A TB25.1-SA or DB5.1-SA surround monitoring system with the Active TLE1S handling the .1 effects channel is a potent and precise tool for the audio professional. These compact systems are currently in service with quality conscious post production, mastering and broadcast fields worldwide.

PMC's ATL™ Technology (Advanced Transmission Line)

ATL™ has taken loudspeaker design to new levels, by using a cabinet construction and highly specified drive unit and crossover components. The PMC **ATL**™ design has enormous benefits compared to sealed and ported models available elsewhere.

The main driver is placed at one end of a long tunnel (the transmission line), which is heavily damped with PMC's proprietary absorbent acoustic material. This material is exactly specified to soak up the upper bass frequencies, which radiate from the rear of the main driver. The lowest frequencies emerge in phase from the large vent at the end of the line, effectively acting as a second driver. The air pressure behind the main driver is maintained controlling the driver in a vice like grip over a wide frequency range, which eradicates spurious cone movement that would lead to distortion. The upper bass and midrange is entirely transparent as it is not masked by harmonic distortion residing in the very low frequencies, which is a feature of less sophisticated designs.

ATL™ produces higher SPL's and lower bass extension than any other design of a similar size, even if identical drivers were used. The frequency response also remains consistent regardless of volume. Neither late night listening, nor prolonged monitoring sessions have to be conducted at high volumes to achieve maximum bass response – ideal for the home and professional alike.

Philosophy

PMC's design philosophy is quite a simple one, to design the ideal monitoring solution with the highest resolution possible without colouration and distortion. This supreme level of resolution is derived through unequalled R&D into (ATL™) Advanced Transmission Line Loudspeaker design and drive unit technology.

Also PMC's close association with principle engineers has allowed development of innovative solutions for the latest recording techniques and changing monitoring environments.

The design team have a clear vision of what must be achieved, therefore all of the PMC range is voiced identically, from the DB1S+ through to the BB5 XBD-A.

The balance is neutral and dynamic with wide dispersion, making image placement pin point over a huge listening window.

The PMC user is one which is pioneering in their field and will not settle for less than the best.

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More than a Black Box!

The philosophy of PSI Audio can be compared to Swiss watch designers. Our vision is to be globally recognised as pioneers in precision audio, combining innovation, creativity and technology.

Designed and manufactured at our Yverdon workshops in Switzerland, the latest generation of PSI Audio speakers is the culmination of 30 years of knowledge of materials and treatments, guided by a thorough understanding of acoustics.

The unique precision of PSI Audio monitors is a delicate mix between the passion, experience and know-how of electro-acoustic technology.

All of the product range takes advantage of our knowledge, and we strive to deliver the most coherent sound and design between all our models.

At the core of our speaker performance is an electronic design based on two exclusive concepts – CPR and AOI. This technology enables us to show people that PSI Audio is more than a black box.

CPR

The CPR system consists of multiple all-pass filters, each of which acts in a specific frequency range in order to obtain a wide area of Compensated Phase Response, generating a constant group delay.

Thanks to the CPR system, the position of the sound image is highly accurate. This technology allows the design of surround sound systems with different types of PSI Audio speakers that maintains an accurate phase response.

Practical Advantages of CPR, and Impact on Stereo Applications

The ear is very sensitive to group delays or phase irregularities of sounds. The human brain detects such irregularities easily and processes them into space related information such as positioning a sound source. All traditionally designed speaker systems suffer to a certain degree with such irregularities. These irregularities are the reason why some speakers produce a wider and deeper room perception that determines the reproduction of the sound image.
The speaker system represents the reference tool of every sound engineer.
An accurate transient response particularly helps the sound engineer during the fine tuning of the reverbs effects, or during the design of a specific sound and its position in the sound image.
As a sound recording passes through various processes (recording, mixing and mastering) in which various people, locations, and therefore speaker systems, will be involved, corrections may be applied due solely to phase irregularities that are not present on the actual recording. The PSI Audio speakers feature our unique CPR system that generates a Compensated Phase Response, removing such irregularities, generating a stereo image and projected room of extreme accuracy. PSI Audio speakers provide a more accurate and precise reference tool to the sound engineer.

CPR Impact on Surround Sound Applications

Traditional speaker designs have different phase responses, and therefore the phase inaccuracy phenomenon is worse in surround sound applications where room information and positioning have an even higher priority and a more critical part of the sound engineering process. This is one of the reasons why speaker manufacturers strongly recommend using speakers of

Full PSI Audio monitors range. A225-M, A25-M, A21-M, A17-M, A14-M

PSI Audio A21-M

PSI Audio A21-M

PSI Audio launched a new Master series this year. Let's focus on our best seller, selected by broadcasters and knowledgeable recording studios all over the world: the A21-M.

The A21-M is the Swiss army knife of the product range. It is a high power near/mid-field precision monitor that covers a broad frequency spectrum, allowing the user to be in full control of their audio production. Its unique and highly optimised assets make it perfect for near, mid-field and surround sound applications where ultimate precision is required.
The powerful bi-amplified output features the unique AOI output stages, while the active crossover, with integrated CPR, delivers unprecedented impulse behaviour with excellent stereo imaging.

Company

PSI Audio is the brand name of Relec, a Swiss company specialising in high performance professional studio monitors. Since it was formed in 1977, Relec has developed a huge variety of speakers for Hi-Fi, PA, and Professional Studio applications, a large number of which are OEM products produced for respected international companies who label and market the speakers under their own brand names.

Many of these products have gone on to win the industry's most desirable awards, as well as being extremely enthusiastically received by the professional press.
Today, PSI Audio has evolved into a worldwide brand, producing the ultimate in professional studio monitors. The users have the opportunity to acquire a whole new generation of innovative, cutting edge speakers and experience for themselves PSI Audio's philosophy of excellence through technology.

the same type when creating a surround sound system. The CPR system by PSI Audio features an extremely accurate and superior surround sound image and a much improved working environment. One of the big advantages of the CPR system is also that for the first time a user can mix different types of PSA Audio speakers in a surround sound system, whilst maintaining perfectly accurate phase response. Not only will the PSI Audio surround system sound much more accurate, and therefore provide a superior working tool, but it can also introduce significant cost and space savings when investing in a new monitoring system.

AOI

The AOI system detects movement of the membrane and the moving coil, and processes them using counter reaction filtering. The damping rate is continuously adjusted in different frequency bands to match the position of membrane and coil. The AOI system allows the reproduction of sound without transducer colouring over the whole frequency range.

Practical Advantages

The PSI Audio speakers featuring the AOI system have superior impulse behaviour to traditional amplifier designs. Whilst the transducer travels to its intended position, the AOI circuitry seamlessly adapts the amplifiers output impedance to ensure ideal acceleration of the membrane to reproduce the desired impulse. Once the transducer reaches the end of the impulse, the AOI circuitry provides a break in order to act against an overshooting of the transducer. The AOI circuitry is almost capable of reproducing a square wave and therefore increases accuracy by marrying the transducer and the amplifier into a perfect couple. From our experience, a nice side effect of the AOI system is that the membranes of a PSI speaker do not produce parasitic sounds when other speaker systems in the room are in use. When air pressure changes due to other sound sources, the AOI will detect this and tighten the damping of its transducers in order not to produce parasitic sounds (sounds not present at the input). In today's times where much more importance is given to the low end reproduction of sounds, especially when using sub woofer technology in surround sound systems, the importance of a monitoring system that has an accurate, and not a flattering, reproduction becomes essential. As a result of the AOI, the PSI Audio speaker range has a highly accurate impulse behaviour, with a minimum of transducer coloration.

PSI AUDIO

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Tannoy – a famous name with a proud heritage

Few companies' products have such a profound impact on our lives that their names enter the dictionary as generic descriptions for their inventions. In the audio field, Tannoy stands alone as a name synonymous with sound.

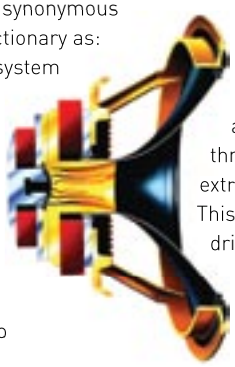
Few companies' products have such a profound impact on our lives that their names enter the dictionary as generic descriptions for their inventions.
There are notable exceptions such as Biro, for its ballpoint pen, and Hoover for its vacuum cleaner. But in the audio field, Tannoy stands alone as a name synonymous with sound, appearing in the dictionary as:
Tannoy (n) 'a communications system with loudspeakers' ...and the phrase 'Over the Tannoy' is universally used to describe a PA announcement.
The company's success in developing public address systems and then continuing its reputation for pioneering audio solutions within the studio environment is legendary.

Despite being steeped in history, the company has never dwelt on its past. Proud of its heritage and the credibility built up with its long association with the professional recording industry, Tannoy has always been an innovator where quality sound reproduction is concerned.

Unique Technologies

Tannoy Dual Concentric™ Drive Unit

Tannoy's core technology, the Dual Concentric™, is unlike ordinary drive units in that it is effectively two drivers properly merged into one. The high-frequency unit is positioned on the back of the low frequency driver so that they are on the same axis. As a result, sound energy is propagated from the same point and delivered through the centre of the low frequency cone providing a true point source. This integrated approach provides a constant time delay over the frequency spectrum offering better transient performance and sound quality with better harmonic alignment than a displaced source monitor design. The crucial benefit at the mix position is the delivery of a more natural and cleaner sound with greatly enhanced intelligibility.



The 'Dual' design provides a very wide sweet spot with an exceptionally even response throughout the listening area and extraordinary transient response. This phase accurate Tannoy-designed drive unit has, for all these reasons, been the choice of professional studio engineers for decades.

WideBand™ Technology

Tannoy has been at the forefront of developing loudspeakers with WideBand™ performance. Extending the high frequency roll-off out to 51kHz corrects the time or phase response at the upper end of audibility, resulting in enhanced accuracy and 'air', improved clarity within the essential mid band area, and even enhancing definition of low frequencies. Tannoy WideBand™ Technology is an essential component of the Precision and Ellipse monitor designs delivering increased tonal accuracy of the individual instruments in the recording process – a mix-critical factor allowing the best EQ and placement decisions to be made.

iDP™ (Interactive Digital Programming) Technology

Accurate room optimisation has taken a quantum leap forward thanks to the development of Tannoy iDP™ technology and its incorporation into Precision iDP and Ellipse iDP models. Utilising iDP™ software, precise matching to the listening environment is possible as each monitor can be individually optimised, taking into account its exact position within the room relative to the room boundary, and its own performance relative to the acoustic properties of the room. iDP™ technology also allows the user to control parameters in 'real time' – such as bass management, global level, recall of different preset settings, solo/mute functions etc.

Tannoy is the longest established loudspeaker company in the world, having been in 'the business' for more than 80 years. It was Tannoy's invention of the Dual Concentric™ speaker in 1948 that brought the company into contact with the top end of professional audio. Arthur Haddy, chief recording engineer at Decca, heard the Monitor Silver version in 1951 and ordered it for the famous Decca FFRR studios in London. EMI subsequently ordered Tannoy Dual Concentric™ loudspeakers for Abbey Road recording studios.

Tannoy User Stories

Randy Kling

The home page of Randy Kling's website (www.discmastering.net) sums up a familiar story of studio professionals worldwide who discovered Tannoy early in their career and have never found a reason to move away. From Elvis Presley to Alice Cooper and through to the present day Randy's engineering talents span over 50 years in the business during which time he has racked up an astonishing 300 gold and platinum records. A constant in his studio equipment list throughout his career - Tannoy monitors. As he says on his website, "Through the passage of time, from tape to vinyl to digital, I've always used the same brand of monitors."

Tony Maserati

When mixing ace Tony Maserati shows up for work, whether in Manhattan mixing Mary J or Beyonce, out in Los Angeles with Ron Fair and the Black Eyed Peas, or in Miami with J Lo, he's comforted by a few certainties. The software on his hard drive, the analogue outboard in his flight case, and his trusted Tannoy monitors, provide a level of consistency from studio to studio that Maserati trusts to help him nail each mix. Ever mindful of advances in speaker design, Maserati recently discovered Tannoy's Ellipse 10 iDPs; a speaker system that's compatible with everything he loves about his Tannoy DMT-12s, which he has worked with for years, yet more portable and effective for detail work.

Carmen Rizzo

Producer and mixer, Carmen Rizzo, is a busy man. In addition to a growing and increasingly eclectic mix of studio projects, he's co-written and played on a wide variety of influential artists' albums and has a burgeoning solo career himself. Recently remixing a Dave Stewart song, featuring Sarah McLaughlin, Annie Lennox, and Imogen Heap, that was written for Greenpeace, he used his new system comprising Tannoy Precision 6 iDP monitors and TS112 iDP sub. "On the first listen I was literally so impressed I couldn't believe it," he said. He further explained that the appeal was multi-faceted; the ability and ease of control when it comes to adjusting speaker parameters, the simple setup – one Ethernet cable between the sub and monitors, the degree of control, and above all, the fact that they represent a lot of speaker in a compact package, and are consistently accurate at any volume.

Consistent Product Development

Landmark speaker models and developments punctuate Tannoy's history – classic loudspeaker models such as the Monitor Red (1958), Monitor Gold (1967), and the Super Red (1980). More recently the long running and highly successful Reveal series has brought Tannoy to a wider audience offering a high performance and competitively priced range of studio monitors.

Significant advances in digital speaker measuring techniques such as Klippell™ symmetry and non-linear distortion analysis, laser scanning interferometry, and acoustic CAD simulation, has allowed further refinement of the Dual Concentric™ drive unit. This, combined with our highly exacting manufacturing processes, ensures that the Precision and Ellipse monitor ranges deliver wide bandwidth, significantly low levels of distortion, very smooth response, extremely accurate phase control and high sensitivity levels.

TANNOY

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Monitors Manufacturers Directory

ADAM AUDIO

Based in Berlin, Germany, Adam Audio produces a wide range of pro audio monitors using their ART (Accelerated Ribbon Technology) tweeter.

From tiny two-way nearfields through mastering monitors and a range of subwoofers, Adam Audio has the range to configure systems for all environments.

www.adam-audio.de

ALESIS

Founded back in 1980 bringing affordable 16-bit processors to the world and taken over by Jack O'Donnell in 2001, Alesis is now headquartered in Cumberland, Rhode Island. It manufactures nearfield active and passive TWO-way monitors for project studios.

www.alesis.com

AMBIANCE ACOUSTICS

Based in San Diego California since 1994, Ambiance Acoustic produces a range of uniquely designed multi-speaker cube monitors for stereo and multi-channel applications.

www.calcube.com

ATC

Billy Woodman formed British loudspeaker company ATC in 1974 with the brief to create the best monitor speakers through technological advance. ATC has a number of monitors for both studio and sound reinforcement use.

www.atc.gb.net

AUDIX

Formed in Redwood City California in 1984, Audix moved to their current location in Oregon in 1991 where they manufacture their small active PH3 and PH5 monitors.

www.audixusa.com.

B&W

John Bowers and Peter Wilkins developed a business producing some of the most visually distinctive monitors ever seen. This continues to this day with products like the FPM flat panel monitor and the Nautilus.

www.bowers-wilkins.co.uk

BAG END LOUDSPEAKERS

Located in Lake Barrington Illinois, Bag End Loudspeakers manufactures a number of speakers for a wide variety of environments. Cinema, small and large-scale sound reinforcement, studio and instrument cabinet speaker systems are all catered for here.

www.bagend.com

BEHRINGER

With one of the biggest ranges of audio equipment around, it's not surprising Behringer's portfolio includes a wide range of monitors, including the Truth range, with both ribbon and conventional tweeter designs.

www.behringer.com

BLUE SKY

Blue Sky International is a collaboration between Group One Ltd and Audio Design Labs Inc formed in 2001. Blue Sky has a number of monitoring systems for both stereo and multi-channel work, including its THX-certified System One series.

www.abluesky.com

DIGIDESIGN

Digidesign has more than 20 years of experience in the world of digital audio workstations, and after Avid Technology acquired it in 1995, has expanded and diversified. Digidesign now has the RM1 and RM2 active monitors in its portfolio.

www.digidesign.com

DYNAUDIO ACOUSTICS

Dynaudio celebrates its 30th anniversary this year. Dynaudio has come a long way from the P-series in 1977 made from OEM drivers and Dynaudio crossovers. The range now includes such stars as the BM range, and the networkable and DSP enabled Air series.

www.dynaudio.com

EARTHWORKS

David Blackmer's (founder of dbx) New Hampshire based Earthworks has a reputation for high-end pro audio equipment and this is evident in its Sigma range of compact monitors.

www.earthworksaudio.com

EDIROL

Edirol is Rolands' audio arm that deals with computer based products. Edirol has developed a line of USB and Firewire interfaces and also has a range of active micro speakers for close computer monitoring, and a USB micro monitor system.

www.edirol.com

EMES

German company Emes manufacture a wide variety of active two-way monitors and subwoofers for stereo and surround applications in broadcast, post and project studio environments.

www.emes.de

ESI

ESI is based in Korea and designs and manufactures an array of computer based audio products that include two-way active monitors and active subwoofer to allow for a number of monitor configurations.

www.esi-pro.com

EVENT ELECTRONICS

Event has been producing award winning precision monitors since 1994 and currently has a number of active two-way monitors. It has just introduced its S100 active subwoofer to allow for both stereo and surround configurations.

www.event1.com

EXCEL AUDIO SYSTEMS

Excel manufactures the excellent 101A, 202A, and 301A active monitors, plus the 802FEU (Frequency Extension Unit) sub. All of the units main units are two-way active, ported models with minimum phase active crossovers, and magnetic shielding.

www.excelaudio.co.uk

EXIGY

Formed in October 2003, and now partnered with Audient and LA Audio, Exigy specialises in monitoring solutions and installations in post, music, and home cinema, with custom work on projects where necessary. Satisfied clients include Grand Central Studios, Realworld Post, and more.

www.exigy.co.uk

FAR

ATD2 specialises in electro acoustic technologies and the design of digital active monitors under the brand name FAR. There is an extensive collection of both digital and analogue active two-way monitors and both analogue and digital subwoofers.

www.atd2.com

FOCAL

French speaker manufacturer Focal has some of the most distinctive looking monitors on the market today. Its range includes a number of two and three-way active designs both analogue and digital, with matching active subwoofers for multiple configuration options.

www.focalprofessional.com

FOSTEX

Fostex has been involved in the development of pro audio products since 1973 bringing a number of firsts to the industry. The Fostex monitor range accommodates those working in field recording, studio, broadcast, and project environments, with a range of micro and two-way active designs with active subwoofer option.

www.fostex.com

monitors 2008

GENELEC

Genelec was founded in Finland in 1978, and monitor design and manufacture has been the core of its business ever since. Genelec is responsible for a number of key technology developments in monitoring that are in use today.

The Genelec active monitor range includes examples of almost every configuration, and Genelec also undertakes custom installations.

www.genelec.com

GRIFFIN AUDIO

Based in New York, Griffin Audio is focused on uncompromising monitor design.

The Griffin range includes active two and three-way monitors, active subwoofers, in wall mounted and specialised active mastering speakers.

www.griffinaudiousa.com

HARBETH

Based in the village of Lindfield, West Sussex, Harbeth manufactures both domestic and professional monitors. The professional range of active monitors have found homes in many places, but it is the BBC who have mainly taken to Harbeth, as its designs are a direct drop-in replacement for the LS3 and LS5 monitor speakers.

www.harbeth.com

HOT HOUSE

Hot House Professional Audio is a small high-tech R&D driven company geared towards the development of standard-setting studio monitoring products.

Hot House has introduced well over a dozen new amplifiers, studio monitors, and active subwoofers over the last few years. The range includes passive two-way and a variety of active mid and farfield monitors.

www.hothousepro.com

JBL

James Bullough Lansing established his company in Los Angeles back in 1927 and was involved in the development of motion picture sound systems from the very beginning. From this, JBL has grown to supply monitor speaker systems for every area of the pro audio industry, including the LSR range with RMC (Room Correction) integration.

www.jblpro.com

KLEIN + HUMMEL

Established in Germany in 1945, Klein + Hummel studio monitors have been setting global standards in professional sound reproduction for decades. Conceived as acoustically uncompromising tools for the evaluation and fine-tuning of sound material, their range runs from small active two-way through analogue and digital three-way active monitors and active subwoofers.

www.klein-hummel.com

KRK

Film sound engineer Keith Klawitter, and his need for a monitor of uncompromising accuracy and clarity, founded KRK in 1986. KRK now manufactures a range of active two-way monitors with active subwoofer options, and its four-way ultimate mains system.

www.krksys.com

LEGACY AUDIO

From humble beginnings in a garage in the mid-west USA, Bill Dudleston and Jacob Albright have sought to bring monitors of stunning craftsmanship for multiple applications to the world of pro audio, and have successfully done this for over two decades. Legacy has passive designs for all components of a surround system, and main speakers from the two-way Studio to the five-way Helix.

www.legacy-audio.com

LIPINSKI SOUND

Educated in Europe, and now based in the US, Andrew Lipinski founded Lipinski Sound in October 2003. As the only audiophile oriented manufacturer professionally active in both recording arts and engineering sciences, Lipinski Sound aims to advance the art of music recording and playback to the next level of reference. The range of passive units can be configured for stereo and surround applications.

www.lipinskisound.com

MACKIE

Amongst Mackie's range of extensive and, in some cases, ground breaking pro audio equipment was the HR monitor. This set a standard for affordable active studio monitoring which continues today with Mackie's range of active monitors designed for studio and post applications in stereo and surround.

www.mackie.com

M-AUDIO

M-Audio is now part of Avid Technology Inc. and is focused principally on computer based studio systems. M-Audio has a range of speakers from micro desktop monitors to high spec active studio monitors for stereo and surround applications.

www.m-audio.com

MEYER SOUND

In 1979, John and Helen Meyer established Meyer Sound to create products for sound reinforcement and recording, designed to meet the real challenges faced by audio practitioners. Today, the company's history shows a track record of more than 27 years of innovation, quality, performance and support. Meyer Sound has speakers for every kind of sound reinforcement and industrial application, as well as near and farfield monitoring solutions for studio use.

www.meyersound.com

MISSION

Founded in 1977, and producing the world's first polypropylene drive unit in the Mission 770 in 1978, Mission has pushed, and continues to push, forward and develop its extensive range of monitors for stereo and surround applications.

www.mission.co.uk

MUNRO ACOUSTICS

Munro has been designing and building sound facilities for over 25 years. It has maintained profile by adapting to the changing needs of these facilities. Munro designs and manufactures custom monitor installations for music, post, cinema, and mastering facilities.

www.munro.co.uk

NADY SYSTEMS

Established in 1976 by John Nady, an electronics engineer/musician who developed wireless technology, Nady has since diversified into other areas of the industry and now manufactures a range of monitors from small two-way nearfields to large sound reinforcement systems.

www.nady.com

NHTPRO

Founded in 1987, California based NHTPro has produced a number of award winning monitors for many applications. The range is made up of a number of small active systems for small desktop through to full surround setups.

www.nhthifi.com

PMC

UK-Based PMC was founded in 1990 by Peter Thomas and Adrian Loader. PMC produces precision and speaker systems featuring its unique Advanced Transmission Line design across the range.

PMC manufactures both active and passive monitors for use in music studios through to full film surround mixing environments.

www.pmc-speakers.com

PSI AUDIO

In 1975 while still studying at the EPFL in Lausanne, Alain Roux produced the first of his monitors under the PSI brand name.
PSI Audio now produces active monitors in both stereo and surround configurations.
www.psi-audio.com

QUESTED

Roger Quested has been designing monitor cabinets since the early seventies and continues to do so with a team at Quested with some 60 years of combined experience. Quested now produces a number of small nearfield passive and active monitors for use in all types of studio environment.
www.quested.com

SAMSON AUDIO

Samson has been designing pro audio equipment for the last 26 years, initially wireless microphone technology, but now equipment across the pro audio world.
Samson has a range of passive and active monitors from small computer audio monitors to full live PA systems.
www.samsontech.com

SLS LOUDSPEAKERS

Since the early 1970's, US based SLS Loudspeakers has been designing and manufacturing loudspeaker systems for both studio and sound reinforcement applications. Specializing in its Ribbon Driver Technology, SLS now has a vast array of monitors for critical studio, live, cinematic and commercial use.
www.slsloudspeakers.com

SOUND PROJECTS

Founded originally as Master Blaster in 1983 specializing in modular sound reinforcement systems, this Dutch company has slowly been re-branding its products as Sound Projects as the company now deals with small studio monitoring as well as continuing with its sound reinforcement loudspeakers.
www.soundprojects.com

SURROUNDTEC

German company SurroundTec designs and manufactures a range of monitors that can be either active or passive, and combined to create any stereo or surround configuration required.
www.surroundtec.de

TANNOY

Tannoy has been designing, developing and manufacturing some of the most familiar monitors in use in studios worldwide. Known for its development with Waveguide and Dual Concentric Driver technology, Tannoy now manufactures monitors for studio, live and commercial installations.
www.tannoy-speakers.com

TAPCO

Tapco produces a range of small active two-way nearfield monitors, and both passive and active small PA speakers for multiple configurations.
www.tapcoworld.com

TASCAM

Tascam makes a vast range of gear for the audio professional, including a series of studio monitors. The VL-A Series are two-way, 'value-priced' models with a complementary sub, and the top of the range VL-X series, and the VL-S series (incorporating NXT driver technology) complete the range.
www.tascam.com

TRUTH AUDIO

US based Truth Audio currently produces a dual woofer two-way nearfield monitor that can be specified in either a passive or active configuration. There are plans to produce a larger mid-field monitor.
www.truthaudio.com

WESTLAKE AUDIO

Westlake Audio strives to design and build loudspeakers that are as accurate to the source recording as currently possible given the existing level of technology, and to research methods of improving this technology for future generations of loudspeakers. Westlake Audio produces a range of monitors from small nearfield to large farfield, and wall mount speakers.
www.westlakeaudio.com

WHARFEDALE PRO

Since 1932, Wharfedale has been at the forefront of loudspeaker technology – these seventy-five years of experience in the design and manufacture of audio systems has led to the creation of Wharfedale Pro and the range of active and passive monitors for a wide range of stereo and multi-channel applications.
www.wharfedalepro.com

YAMAHA

Yamaha are of course responsible for the most popular nearfield monitor in pro studios, the NS10. Yamaha has continued to develop its monitor range and now has a wide range of active and passive speakers for all types of studio environment.
www.yamaha.com

YORKVILLE SOUND INC.

Since 1963 Yorksville Sound has been a leader in the design and innovation of monitor loudspeaker products for studio, club and concert hall applications. The range consists of small active nearfields through to full concert hall systems.
www.yorksville.com

One Great Thing Leads to Another ...

BM 6A mkII *BM 12A*

... and Another

Dynasty expanded
The Dynaudio Acoustics BM 5A set a new benchmark for what an active nearfield studio monitor could be. The new BM 6A mk II and BM 12A take advantage of that same design philosophy while offering more power, more headroom and wider frequency response.

As one of the few manufacturers that build our own drivers, we believe in a no compromise approach to designing studio monitors, whatever the application. The new BM 6A mk II and BM 12A are no exception to that rule.

Dynaudio Acoustics - Superior tools for critical monitoring

BM 5A *BM 6A mkII* *BM 12A* *BM 9S* *BM 14S*

For details contact your dealer today or visit www.dynaudioacoustics.com

dynaudio acoustics
IF IT'S THERE - YOU'LL KNOW IT

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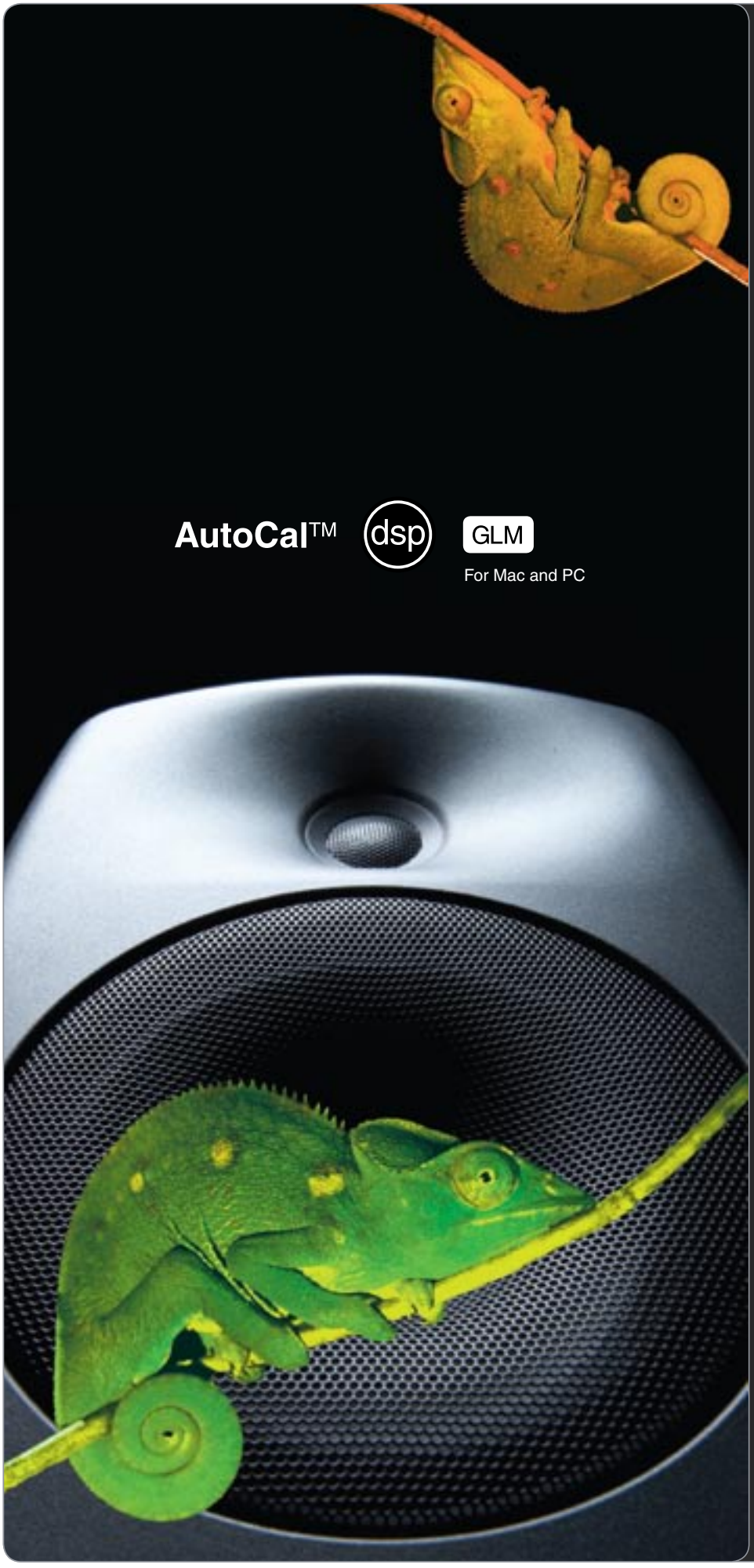
WWW.DYNAUDIOACOUSTICS.COM



Designed to Adapt

Nature has come up with clever ways to let some animals adapt quickly to their environments.

TEC 2007 WINNER

At Genelec our new 8200 / 7200 DSP Series also have the ability to adapt to their environment, by design.

AutoCal™, Genelec's optimisation software takes into account level, distance and 8-band equalization to adapt each monitor loudspeaker to its immediate environment. What's more it does it as a system with network control of up to 30 adaptable loudspeakers, including subwoofers.

In 1978 Genelec brought active monitoring to the professional audio world. An essential part of our active design is the room response controls. They are included in every Genelec analogue model to help integrate them to the listening environment. To further this, Genelec Product Specialists travel the world providing system calibration services to ensure optimum monitoring performance for our large system customers.

The Genelec DSP Series now brings this commitment, along with our acoustical knowledge and experience, directly to every customer.

AutoCal™ - cleverly designed to give you the room to adapt.

GENELEC®

www.genelec.com